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ABSTRACT

This basic core of instruction for equine management and production is designed to assist instructors in preparing students for successful employment or management of a one- or two-horse operation. Contents include seven instructional areas totaling seventeen units of instruction: (1) Orientation (basic horse production: handling and grooming: handling the young unbroken horse), (2) Health and Foot Care (horse health and disease prevention: basic first aid: parasites: fundamentals of foot care: foot problems, trimming, and shoeing), (3) Nutrition (practical horse nutrition), (4) Reproduction (fertility and genetics of reproduction, breeding efficiency and mating procedures, care of mare and foal), (5) Selection and Judging (selecting and marketing the horse, judging), (6) Transportation (transporting the horse), and (7) Facilities and Equipment (physical facilities and stable management, selection and care of tack). Designed for use in more than one lesson or class period of instruction, each unit of instruction may contain any or all of eight basic components: performance objectives, suggested activities for teacher, information sheets (providing "must know" content essential for meeting the cognitive objectives of the unit), assignment sheets (application of knowledges which are necessary prerequisites to skill development), job sheets (performance of a manipulative or psychomotor skill), transparency masters, tests, and answers to tests and assignment sheets. (YLB)

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ED194774

VOCATIONAL
AGRICULTURE
EDUCATION

Equine Management and Production

Written by
James A. Rudolph, Curriculum Writer

Project Coordinated by
Greg Pierce, Agriculture Curriculum Specialist
Curriculum and Instructional Materials Center
State Department of Vocational and Technical Education
Stillwater, Oklahoma

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Developed by the
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Oklahoma State Board of Vocational and Technical Education
Leslie Fisher, Chairman
Francis T. Tuttle, Director
Bob Patton, Coordinator, Curriculum and Instructional Materials Center

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EQUINE MANAGEMENT AND PRODUCTION

TABLE OF CONTENTS

Section A--Orientation

Unit I--Basic Horse Production 1-A
Unit II--Handling and Grooming 41-A
Unit III--Handling the Young, Unbroken Horse 79-A

Section B--Health and Foot Care

Unit I--Horse Health and Disease Prevention 1-B
Unit II--Basic First Aid 33-B
Unit III--Parasites 79-B
Unit IV--Fundamentals of Foot Care 131-B
Unit V--Foot Problems, Trimming, and Shoeing 159-B

Section C--Nutrition

Unit I--Practical Horse Nutrition 1-C

Section D--Reproduction

Unit I--Fertility and Genetics of Reproduction 1-D
Unit II--Breeding Efficiency and Mating Procedures 35-D
Unit III--Care of Mare and Foal 75-D

Section E--Selection and Judging

Unit I--Selecting and Marketing the Horse 1-E
Unit II--Judging 51-E

Section F--Transportation

Unit I--Transporting the Horse 1-F

Section G--Facilities and Equipment

Unit I--Physical Facilities and Stable Management 1-G
Unit II--Selection and Care of Tack 31-G

FOREWORD

The equine industry is faced with increasing problems of qualified employees. *Equine Management and Production* is designed to provide a basic core of instruction for use by students preparing for employment in this field. Although many individuals are interested in entering the equine industry, they are unable to procure the proper learning situations to qualify for such positions. Not only is the purpose of *Equine Management and Production* to assist instructors in preparing students for successful employment, but also for proficiency in managing the small one- or two-horse operation.

This publication should be a valuable asset in creating appropriate teaching-learning environments for students at various learning levels and ages. The use of this publication should promote effective and uniform equine management and production vocational programs throughout Oklahoma.

Francis T. Tuttle, State Director
Oklahoma State Department of
Vocational and Technical Education

Ralph Dreesen, State Supervisor
Vocational Agriculture
Oklahoma State Department of
Vocational and Technical Education

PREFACE

The idea of starting an educational program in equine was conceived after various meetings and discussions among people interested in horses in the state of Oklahoma. Due to the shortage of qualified individuals to fulfill the employment needs, coupled with the lack of educational materials, a need was recognized to write instructional materials such as these. This publication will aid greatly in this goal as well as provide a training manual for the one- or two-horse owners.

Since published materials and/or tests listing a step-by step procedure associated with this field are limited, an advisory committee assisted in identifying six areas of major concern for instruction. These areas were health and foot care, nutrition, reproduction, selecting and judging, transportation, and facilities and equipment. A section on orientation was also identified to provide information on basic horse production, handling, and grooming.

It is suggested that the instructors use this material with their own motivational techniques, local resources, and personal teaching style to prepare students to enter the equine industry. It is strongly recommended that instructors supplement this publication with additional materials that apply to situations in their area.

After using this publication, it is hoped that instructors will realize the effectiveness of this approach to teaching. Since the publication is written in a manner to focus all resources toward a measurable outcome, the students and instructors should be able to perform at a higher level.

James A. Rudolph
Curriculum Writer

ACKNOWLEDGEMENTS

Sincere appreciation is expressed to the many individuals who have contributed their time and efforts to the preparation of this publication.

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Recognition is extended to the advisory committee who reviewed and endorsed this publication.

Jack Anderson -- Tulsa, Oklahoma
Robert L. Clem -- Camargo, Oklahoma
Rick Hamm -- Sperry, Oklahoma
Howard Hanni -- Davis, Oklahoma
Gary D. Hill -- Wilburton, Oklahoma
Joe H. Hughes -- Stillwater, Oklahoma
Sherman Lauder -- Leedey, Oklahoma
Doyle Meadows -- Stillwater, Oklahoma
William Reynolds -- Guthrie, Oklahoma
Tom Scribner -- Claremore, Oklahoma
Bob Story -- Stillwater, Oklahoma
Gwynne M. Warren -- Edmond, Oklahoma

College of Veterinary Medicine
Oklahoma State University

Dr. Steve Slusher
Dr. Tom Monin

Agriculture Teacher Education Staff

Dr. Robert Terry
Dr. James Key

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A special note of gratitude is given to Jon Dickey, Clay Turner, Edith Mekis, Bill Dunn, Esther Randall, Lin Thurston, and Barbara Boyce for illustrations used in this publication and to Teddi Cox, Terra Stone, and the rest of the Graphics Division for typesetting and printing this material. John Phillips, Stillwater, and Barry Johnson, Murray State University, Murray, Kentucky, also deserve recognition for photographs appearing in this publication. A final note of thanks is given to the students in the horsemanship program at Murray State University for their services rendered, their support, and encouragement.

USE OF THIS PUBLICATION

Instructional Units

Equine Management and Production includes seven instructional areas (sections). A standard format was established in 1970 for development of instructional materials for all Oklahoma vocational teachers. This format includes eight basic components which form a unit of instruction: performance objectives, suggested activities for teacher, information sheets, assignment sheets, job sheets, transparency masters, tests, and answers to tests and assignment sheets. Depending on the specific objectives, transparency masters, assignment sheets, and job sheets may or may not be included in the unit of instruction.

All of the unit components "zero in" toward measurable and observable learning outcomes. Teachers are encouraged to supplement, personalize, localize, and motivate with these materials in order to develop a complete teaching-learning process.

Units of instruction are designed for use in more than one lesson or class period of instruction. Careful study of each unit of instruction by the teacher will help him or her determine:

A. Amount of material that can be covered in each class period
B. Skills which must be demonstrated
    1. Supplies and equipment needed
    2. Amount of practice needed
    3. Amount of class time needed for demonstrations
C. Supplementary materials, such as pamphlets and filmstrips, that must be ordered
D. Resource people who must be contacted

Performance Objectives (white pages)

Each unit of instruction is based on the performance needed for successful employment in an occupational area. Performance objectives are stated in two forms: unit objectives, stating the subject matter to be covered in a unit of instruction, and specific objectives, stating the student performance necessary to reach the unit objective.

Since the objectives of the unit provide direction for the teaching-learning process, it is important that the teacher and students have a common understanding of the intent of the objectives. Following is a list of performance terms, their meanings, and behavioral synonyms which may have been used in this material:

A. Name--The individual supplies a name for objects, events, or people

Behavioral synonyms: Label, list, letter, record, reiterate, repeat, write

B. Identify--The individual selects a named, described, or pictured object by pointing to it, touching it, picking it up, or selecting it

Behavioral synonyms: Select, mark, match, choose, judge

C. State a rule--The individual communicates a relationship or principle which could be used to solve problems or perform a task

D. Apply a rule--The individual supplies an answer to a problem by using a stated relationship or principle

Behavioral synonyms: Solve, calculate

E. Describe--The individual relates sufficient characteristics or properties of an object or event so that a second individual will be able to state what is being discussed

Behavioral synonyms: Define, discuss, interpret, recite, tell how, tell what happens when

F. Distinguish--The individual selects an object or event from two or more which are easily confused

Behavioral synonyms: Discriminate, differentiate

G. Order--The individual arranges three or more objects or events in a sequence based on a stated property

Behavioral synonyms: Arrange, sequence, list in order, classify, divide, isolate, sort

H. Construct--The individual makes a physical object, a verbal statement, or a drawing

(NOTE: Construct is used when the finished product or result is important.)

Behavioral synonyms: Draw, make, build, design, formulate, reproduce, transcribe, convert, put together, compile

I. Demonstrate--The individual performs several operations necessary to carry out a specified process

(NOTE: Demonstrate is used when it is desirable to watch the student perform a task, one of the highest levels of student performance.)

Behavioral synonyms: Show your work, show procedure, perform an experiment, perform the steps, operate, remove, replace, turn off/on, (dis) assemble, (dis) connect

The objectives should be provided for students and stressed throughout the teaching-learning process. This will help answer any questions concerning performance requirements for each instructional unit. The objectives can also help determine teaching strategies and instructional methods. Prepare for each unit by deciding how each objective can best be taught.

The objective sheet may be also used as a quick pretest to determine prior knowledge of students and if further study or activities are necessary. Teachers should feel free to modify, delete, or add objectives in order to meet the needs of the students and community. When changes in objectives are made, the teacher should remember to supply the needed information, assignment and/or job sheets, and criterion test items.

Suggested Activities (pink pages)

This component is included only in teacher material. The suggested activities page assists teachers during the preparation stage of the teaching-learning process by providing suggestions for delivery and/or presentation during the instructional process. Read the suggested activities before teaching the units so supplemental materials can be obtained, audio-visual materials prepared, and outside resources contacted. Duties of the teacher will vary according to the particular unit.

The references that are listed are ones used in the development of each unit. They should be used by the teacher to supplement her or his knowledge of the subject area or to help students with particular interest or occupational objective in the area covered.

Information Sheet (green pages)

The information sheet provides "must know" content essential for meeting the cognitive (knowledge level) objectives of the unit. The information is written in a topical outline form and is keyed to the specific objectives.

Teachers will find that the information sheet serves as an excellent guide for presenting background knowledge necessary to develop the skills specified in the unit objective. The information sheet may also be used for coordination activities and advisory committees.

Students should read the information sheet before the information is discussed in class. Space is provided in margins for students and teachers to add notes that supplement, localize, personalize, and provide motivation for each unit.

Transparency Masters (white pages in teacher material and green in student material)

Transparency masters provide information in a special way. The students may see as well as hear the material being presented, thus reinforcing the learning process. Transparencies may present new information or they may reinforce information presented in the information sheet. They are particularly effective when identification is necessary.

Transparencies should be made and placed in the notebook where they will be immediately available for use. Transparencies direct the class's attention to the topic of discussion. It is recommended that teachers stand away from the overhead projector when discussing transparency material to avoid speaking too loudly.

Assignment Sheets (brown pages)

Assignment sheets give students a chance at problem solving, self-assessment, and/or practical experience with the information. They assist students in the application of knowledges which are necessary prerequisites to skill development. These may be given to the student for completion in class or used for homework assignments. Answer sheets are provided when appropriate and can be used by the student and/or teacher for checking student progress.

Job Sheets (blue pages)

Job sheets are another important segment of a unit of instruction. The job sheets provide a list of equipment, tools, and materials needed to complete a manipulative or psychomotor skill. They describe a step-by-step procedure needed to complete each task or job. Diagrams, photographs, and illustrations are provided to assist students in achieving the skill.

A teacher should demonstrate to students the procedures outlined in each job sheet. Furthermore, the teacher needs to localize the job sheet accordingly to the equipment and supplies available in the local lab or shop situation. Job sheets also furnish potential employers with a picture of the skills being taught and the performances they might reasonably expect from a person who has had this vocational instruction.

Tests (yellow pages)

This component provides criterion-referenced evaluation of every objective listed in the unit of instruction. It is crucial to note that both paper-pencil and performance objectives must be evaluated.

The tests may be written or oral. It is recommended that the tests be divided into shorter tests covering three or four objectives at a time and given soon after those objectives have been covered. A selection of questions from the units covered may be used for final tests at the end of each term if desired. If objectives have been added, deleted, or modified, be sure to make the changes on the test.

The acceptable response on a unit test, eighty-five percent in most units, may be raised or lowered to fit the topic or students' ability levels. The percentage applies to the overall score, not to each individual question. The final unit grade should be obtained by using the "paper-pencil" score along with teacher evaluations of student demonstrations of the desired skills.

Answers to Test and Assignment Sheets (pink pages)

These components are designed to assist the teacher in evaluation of student performances.

Page Numbering

Each publication from the Curriculum and Instructional Materials Center is assigned a specific abbreviation. For example, *Equine Management and Production* has been abbreviated EQU. Each section is also assigned a specific letter. For example, "Orientation" is Section A and "Health and Foot Care" is Section B. The units are then numbered consecutively within each section. An example of a page number is EQU - 1-A. This shows that this is the first page of Section A in *Equine Management and Production.* Since CIMC publications are loose leaf, this system of page numbering was adopted so pages from different manuals would not get mixed up.

Methods of Disseminating Material

Material may be given out a unit or page at a time to keep the material before the students always new. Some teachers ask students to furnish a three-ring binder for the units while studying a particular unit. This is more convenient for taking the material home to study. Each unit is then placed in the larger binders upon its completion. The large binders may be purchased at cost from the CIMC. Some teachers have stored the materials by units in filing cabinets or boxes until needed for use. All the units may be given out at once if desired.

Student materials should be provided for each student for best results. They may be purchased in-state for less than a teacher can reproduce the materials, especially when the teacher's time is considered. Student materials contain everything but the test answers, answers to assignment sheets, and suggested activities. The tests are collated all together at the back of student material and should be removed and stored until needed. The students should be allowed to take their materials home at the end of the year.

Teaching Methods

It is a challenge to keep students motivated. Supplement the objectives by providing the "why," personal experiences, and current information. Prepare for each unit by deciding how each objective can best be taught. Allow students to become involved in preparing and planning.

BASIC HORSE PRODUCTION
UNIT I

UNIT OBJECTIVE

After completion of this unit, the student should be able to explain the history and development of the horse; describe major breeds according to origin, characteristics, breed associations, and uses; and describe various production factors. This knowledge will be evidenced by completion of the assignment sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with basic horse production to the correct definitions.
2. Arrange in order the stages of evolutionary development of the horse.
3. Match the stages of evolutionary development of the horse to the correct descriptions.
4. Match terms associated with the uses of horses to their correct descriptions.
5. Complete a chart describing the major breeds of horses, including breed associations, origin, color, characteristics, and uses.
6. List job opportunities in the horse industry.
7. Select from a list factors to consider in buying a horse.
8. Select from a list factors which attribute to correct feeding practices.
9. List health practices to be considered in horse production.
10. Explain fundamental breeding practices.
11. Identify common items of tack and equipment.
12. Survey concerns of area breeders.

BASIC HORSE PRODUCTION
UNIT I

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

- A. Provide student with objective sheet.
- B. Provide student with information and assignment sheets.
- C. Discuss unit and specific objectives.
- D. Discuss information and assignment sheets.
- E. Assist students in selecting breeders in area to survey.
- F. Give test.

II. Instructional materials:

- A. Objective sheet
- B. Information sheet
- C. Assignment sheets
  - 1. Assignment Sheet #1--Complete Chart on Breeds of Horses
  - 2. Assignment Sheet #2--Survey Concerns of Area Breeders
- D. Test
- E. Answers to test

III. Unit references:

- A. Ensminger, M. E. *Horses and Horsemanship*. Danville, Illinois: Interstate Printers and Publishers, 1969.
- B. Wagoner, Don M. *Conditioning to Win*. Grapevine, Texas: Equine Research Publications, 1974.
- C. Thiffault, Mark, and Lewis, Jack. *Western Horse and Horseman's Digest*. Northfield, Illinois: Digest Books, Inc., 1975.

IV. Additional materials--University of Kentucky, Cooperative Extension Service. *Horses and Horsemanship: 4-H Horse Program*. Chicago: National 4-H Service Committee, Inc., 1965.

BASIC HORSE PRODUCTION
UNIT I

INFORMATION SHEET

I. Terms and definitions

   A. Antiseptic--Substance that checks the growth or action of microorganisms especially in or on living tissue

   B. Balanced ration--Feed that furnishes the necessary nutrients in such proportion and amount as will properly nourish a given animal for a 24-hour period

   C. Breed--Animals related by descent from common ancestors and visibly similar in most characteristics

   D. Colostrum--Milk secreted for a few days after partruition and characterized by high nutritive value and antibiotic content

   E. Foal--Young horse under one year of age

   F. Gestation--Length of time for the development of the foal from time of breeding until birth

   G. Mare--Mature female horse

   H. Parasite--Plant or animal living in or on another organism (host), relying on that organism for existence and support without making a useful or adequate return

   I. Partruition--Act or process of giving birth to foal

   J. Placenta--Membrane by which the fetus is attached to the uterus; expelled when animal is born; commonly known as *afterbirth*

   K. Stallion--Mature male horse that has not been castrated

II. Stages of evolutionary development of the horse

   A. Eohippus--58 to 38 million years ago

   B. Mesohippus--38 to 28 million years ago

   C. Merychippus--28 to 12 million years ago

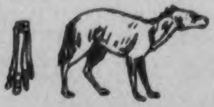
   D. Pliohippus--12 to 1 million years ago

   E. Equus Caballus--0 to 1 million years ago

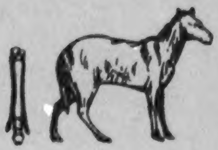
INFORMATION SHEET

III. Development of the horse

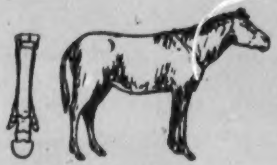
A. Eohippus--10"-12"-high swamp-roaming animal with even teeth, slender legs, and short neck; front foot had four toes and rear had three toes



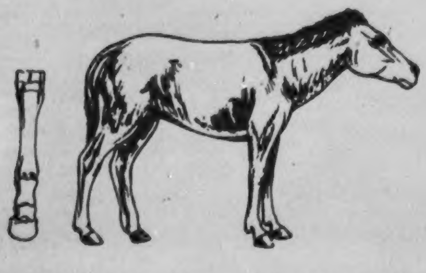
B. Mesohippus--About the size of collie dog with conformation similar to a deer; teeth and jaws slightly larger; front and rear feet had three toes with middle more pronounced



C. Merychippus--Approximate size of small pony; became plains dweller as central toe enlarged and carried all the weight



D. Pliohippus--About the size of donkey with one toe called *hoof*; versatility and visibility greatly increased



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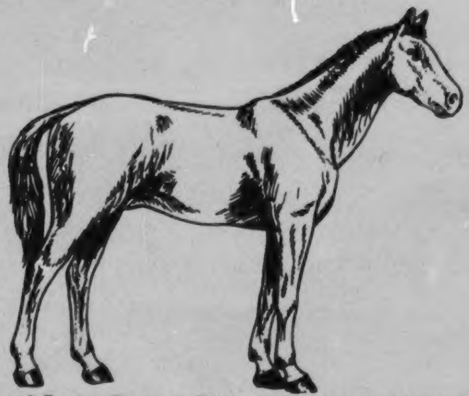
INFORMATION SHEET

E. Equus Caballus--Size, intelligence, and speed increased into our "modern day horse"



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IV. Uses of horses

A. Three-gaited--Saddle horse trained to perform at the walk, trot, and canter

B. Five-gaited--Saddle horse trained to perform in five gaits: the walk, trot, canter, rack, and slow gait

C. Fox-trot gait--Characterized by smooth, 5-10 mph gait

D. Fine harness--Characterized by light harness, pulling light four-wheel vehicle

E. Heavy harness--Characterized same as light harness, but equipment and harness are heavier

F. Pleasure--Used for any purpose one enjoys, such as caring for, riding, or raising horses

G. Stock--Used for working cattle or for general ranch work

H. Parade--Used in various celebrations with highly decorative tack

I. Saddle--Characterized by smooth, easy ride; often referred to as "a horse used for riding"

J. Hunting--Used for pursuing game on horseback; usually implies following hounds

K. Jumping--Applies to horses used for jumping high obstacles

INFORMATION SHEET

L. Hunter-Jumper--Used for hunting and charactertized by the ability to jump fences and low obstacles

M. Trail--Used for slow pleasure riding through woods, hills, and scenic areas

N. Children's mount--Used exclusively for young children, mostly for pleasure but sometimes for show

O. Racing--Competes against other horses by running, pacing, or trotting

P. Buggy--Pulls four-wheel vehicle used for transportation

Q. Show--Exhibited in show arena in competition

INFORMATION SHEET

V. Major breeds of horses (Assignment Sheet #1)

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses
American Saddle Horse	American Saddle Horse Breeders' Association 929 4th Street Louisville, KY 40203 (502) 585-2425	United States: Kentucky	Bay, brown, chestnut, gray, black	Long graceful neck, proud action, easy ride, lot of style and animation; 60"-64"; 1000-1200 lbs	Three-gaited, five-gaited, fine harness, pleasure
Appaloosa	Appaloosa Horse Club, Inc. Box 8403 Moscow, ID 83843 (208) 882-5578	United States: Oregon, Washington, and Idaho regions	Variable, usually dark with white over loin and hips containing spots thereon	Hoofs black and white vertically striped; skin mottled; eyes encircled by white; over 56"	Stock, pleasure, parade
Arabian	Arabian Horse Registry of America, Inc. 3435 S. Yosemite Denver, CO 80231 (303) 750-5626	Arabia	Bay, chestnut, gray, occasionally white or black; skin always dark	Beautiful head, short coupling; docility, endurance, and proud way of going; 56"-61"	Saddle, stock
Connemara Pony	American Connemara Pony Society Hoshiekon Farm, R.D. 1 Goshen, CT 06756 (203) 491-3521	Ireland	Gray, black, bay, brown, dun, cream, with occasional roans and chestnuts	Range in height from 52"-58"; noted for hardiness, docility, and soundness	Jumping, fine harness, hunting
Hackney	American Hackney Horse Society P.O. Box 174 302 W. Clare Pittsfield, IL 62363 (217) 285-2472	England	Chestnut, bay and brown most common; roans and blacks accepted	High natural action; mane pulled and tail docked for show purposes; 48"-64"	Heavy harness, some cross breeding to produce hunter-jumpers

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INFORMATION SHEET

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses
Missouri Fox-Trotting Horse	Missouri Fox-Trotting Horse Breed Association, Inc. 201 S. E. Third Street P.O. Box 637 Ava, MO 65608 (417) 683-2468	United States: Ozark Mountains of Missouri	Sorrel, white points	Fox-trot gait; 58"-62"	Pleasure, trail, show
Morgan	American Morgan Horse Association P.O. Box 1 Westmoreland, NY 13490 (315) 736-8306	United States: New England states	Bay, brown, black, and chestnut	Endurance, docility; 58"-64"	Saddle, stock
Paint	American Paint Horse Association P.O. Box 18519 Fort Worth, TX 76118 (817) 439-3400	United States	White plus any other color, but must be recognizable paint	Over 56"	Appaloosa coloring or breeding; adult horses under 56"
Palomino	Palomino Horse Breeders of America P.O. Box 249 Mineral Wells, TX 76067 (817) 325-2848	United States	Golden with light colored mane and tail; white points acceptable	Color breed; 58"-64"	Stock, pleasure, parade, saddle, fine harness
Pinto	Pinto Horse Association of America, Inc. 7525 Mission Gorge Road Suite C San Diego, CA 92120 (714) 286-1570	United States	Half dark and half white colors with many spots well placed	Glass eyes acceptable; over 56"	Show, pleasure, parade
Pony of the Americas	Pony of the Americas Club, Inc. 1452 Federal P.O. Box 1477 Mason City, IA 50401 (515) 424-1586	Unites States: Iowa	Similar to Appaloosa	46"-52" in height	Children's mounts

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INFORMATION SHEET

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses
Quarter Horse	American Quarter Horse Association P.O. Box 200 Amarillo, TX (806) 376-4811	United States	Chestnut, sorrel, bay, dun; some are Palomino, black, brown, and roan	Well muscled, powerfully built; 56"-62"	Stock, pleasure, racing, show
Shetland Pony	American Shetland Pony Club P.O. Box 435 Fowler, IN 47944 (317) 884-1242	Shetland Isles	All colors acceptable	Small size; less than 46"	Children's mounts, some fine harness
Standardbred	United States Trotting Association 750 Michigan Ave. Columbus, OH 43215 (614) 224-2291	United States	Bay, brown, chestnut, and black; grays, roans, and duns acceptable	More rugged than thoroughbred; 60"-64"	Racing, show, buggy
Tennessee Walking Horse	Tennessee Walking Horse Breeders' and Exhibitors' Association of America 250 N. Ellington Parkway Box 286 Lewisburg, TN 37091 (615) 359-1574	United States: Tennessee	Sorrel, chestnut, black, roan, white, bay, brown, gray, and golden; white points common	Running walk gait; around 62"	Pleasure, some stock horses
Thoroughbred	The Jockey Club 300 Park Avenue New York, NY 10022 (212) 355-6146	England	Bay, brown, chestnut, and black; some roan and gray; white points	Fineness of conformation; long, straight, and well muscled legs; 60"-68"	Racing, stock, saddle, hunter-jumper
Welsh Pony	Welsh Pony Society of America P.O. Drawer A White Post, VA 22663 (703) 667-6195	Wales	Any color except spotted	Small size; 40"-56"	Children's mounts, fine harness, hunter-jumper

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INFORMATION SHEET

VI. Job opportunities in the horse industry

- A. Breed association representative
- B. Exercise rider
- C. Farm or ranch worker
- D. Farrier
- E. Horse show judge
- F. Race track worker
- G. Riding instructor
- H. Stable manager
- I. Trainer
- J. Youth extension agent
- K. Numerous other jobs which apply to horse related activities

  Examples: Feed salesperson, auctioneer, tack and equipment salesperson

VII. Factors to consider when buying a horse

- A. Use of horse
- B. Cost
- C. Characteristics of horse

  Examples: Size, weight, age
- D. Places to purchase horse

  Examples: Individuals, horse sales, riding stables, advertisements in magazines and newspapers, agents
- E. Experience of individual purchaser
- F. Examination by veterinarian

VIII. Factors which attribute to correct feeding practices

- A. Feed must vary with individual horse and depends upon use, size, age, and weight of horse
- B. Horse should consume approximately 2.0-2.5% of body weight

INFORMATION SHEET

C. Grain should be increased and hay decreased as amount of work increases

D. Feed should not be made available to the horse within the hour immediately before or after strenuous activity

E. Changes in diet should be gradual, allowing digestive system to adapt accordingly

F. Ration should be balanced

G. Water should be fresh and easily accessible

H. Times of feeding should be consistent

(NOTE: Twice a day at 12-hour intervals is acceptable.)

I. Horse should not be permitted to drink heavily when hot or immediately before heavy activity

IX. Health practices to be considered in horse production

A. Avoid public feeding and watering places

B. Administer proper vaccinations

Examples: Tetanus, VEE, influenza

C. Keep stalls clean of manure and urine

D. Maintain pastures and paddocks to eliminate manure accumulation

E. Remove hazardous obstacles from pastures and barn area

F. Maintain parasite control

X. Fundamental breeding practices

A. Estrous cycle of the mare--Length of cycle is usually an average of 21 days, consisting of 5 days in heat and 16 days out of heat

B. Selection of appropriate stallion--Decision should be made by January of each year

C. Age to breed mares--Mares should not foal before three years of age, preferably four; many mares will continue to produce past twenty years of age

INFORMATION SHEET

D. Time of year to breed--Spring foals are most popular due to registration guidelines and weather conditions

E. Gestation length--Eleven months or 336 days

F. Care of pregnant mare--Proper nutrition, good health practices, and sufficient exercise are major concerns

G. Signs of approaching partruition--Udder shows signs of waxing and dripping milk; mare exhibits restlessness

(NOTE: The foaling process under normal conditions is rapid compared to other large farm animals.)

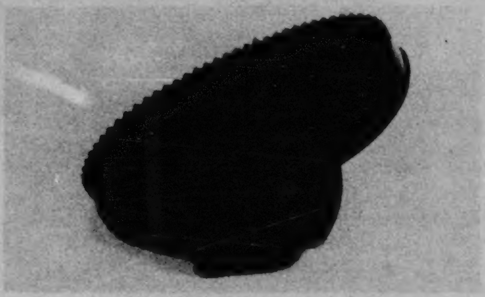
H. Foaling the mare--Location should be in clean meadow or sanitary foaling stall

(NOTE: Distractions should be avoided and stall should be a minimum of 16' x 16'.)

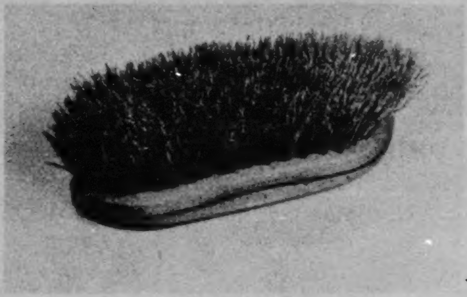
I. Care of mare after foaling--Examination should be done by competent individual for abnormalities and shedding of the placenta

J. Care of foal--Navel cord treated with antiseptic; enema given as precautionary measure; be certain foal has nursed for colostrum

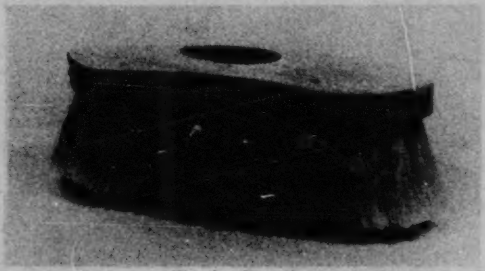
XI. Common items of tack and equipment



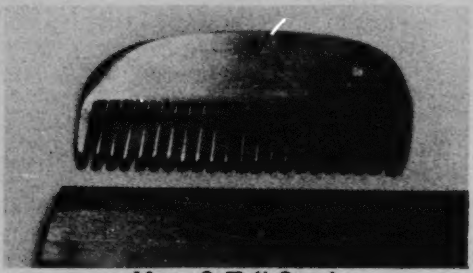
Rubber Curry Comb



Root Brush

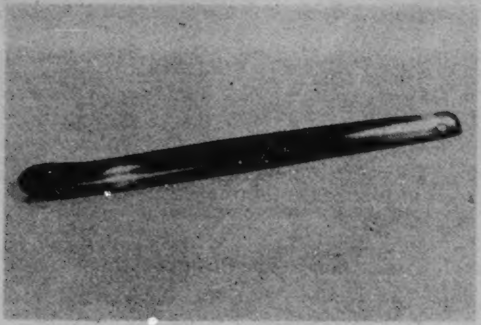


Body Brush

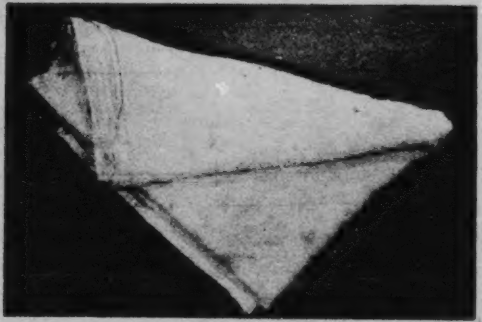


Mane & Tail Comb

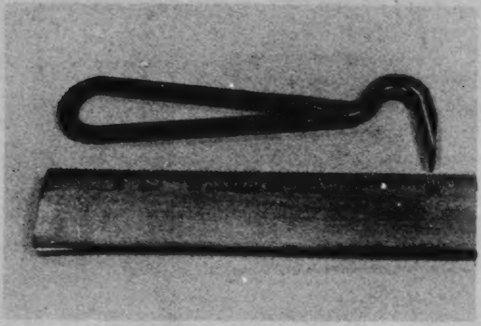
INFORMATION SHEET



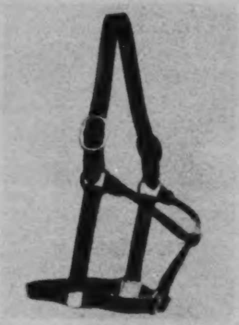
Sweat Scraper



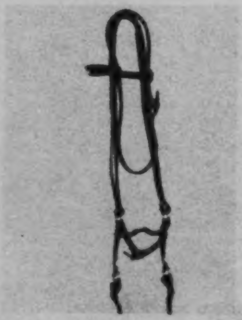
Grooming Cloth or Rag



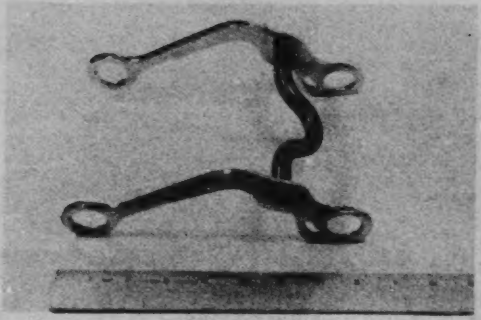
Hoof Pick or Hook



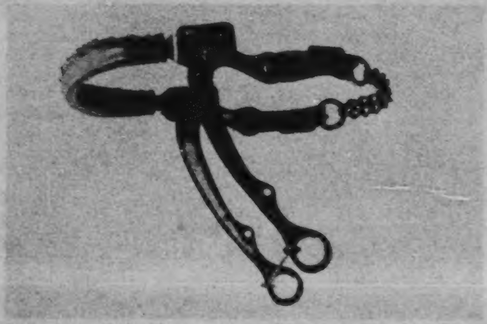
Halter



Bridle

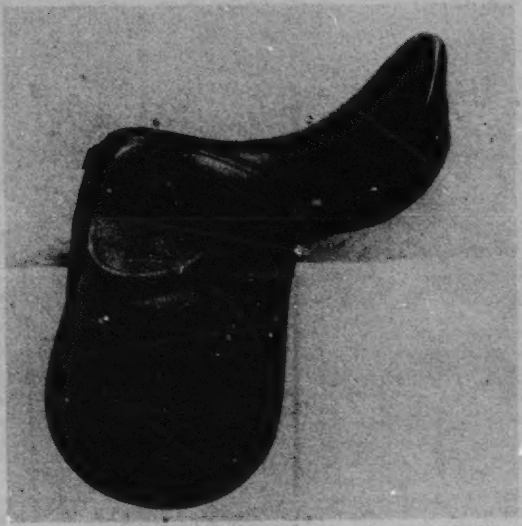


Grazing Bit

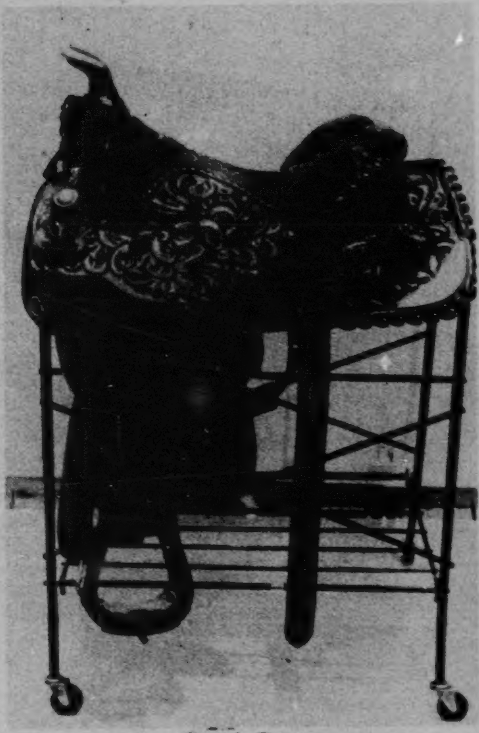


Mechanical Hackamore

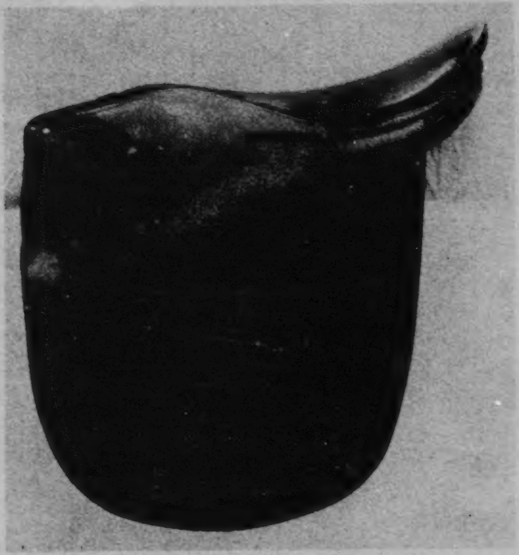
INFORMATION SHEET



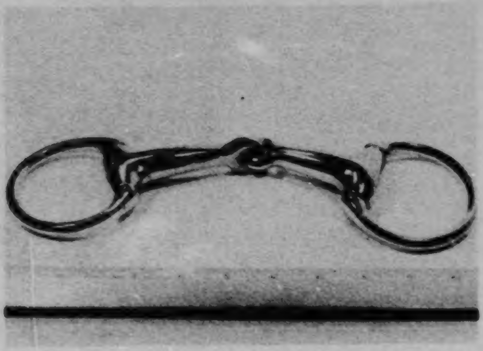
Forward Seat
English Saddle



Stock Seat
Western Saddle



Flat Seat
English Saddle



Snaffle Bit

BASIC HORSE PRODUCTION
UNIT I

ASSIGNMENT SHEET #1--COMPLETE CHART ON BREEDS OF HORSES

Most individuals have a preference for a certain breed or breeds. Select three breeds of greatest interest to you and complete the chart.

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses

BASIC HORSE PRODUCTION
UNIT I

ASSIGNMENT SHEET #2--SURVEY CONCERNS OF AREA BREEDERS

Survey prominent breeders in your area to determine their major concerns in each of the following areas.

	Breeder #1	Breeder #2
Buying a horse		
Employees		
Feeding practices		
Health factors		

EQU - 21-A

BASIC HORSE PRODUCTION
UNIT I

TEST

NAME ____________________________ SCORE ______________

1. Match the terms on the right to the correct definitions by placing the appropriate numbers in the blanks provided.

_____a. Act or process of giving birth to foal

_____b. Substance that checks the growth or action of microorganisms especially in or on living tissue

_____c. Milk secreted for a few days after partruition and characterized by high nutritive value and antibiotic content

_____d. Feed that furnishes the necessary nutrients in such proportion and amount as will properly nourish a given animal for a 24-hour period

_____e. Mature male horse that has not been castrated

_____f. Animals related by descent from common ancestors and visibly similar in most characteristics

_____g. Mature female horse

_____h. Membrane by which the fetus is attached to the uterus; expelled when animal is born; commonly known as *afterbirth*

_____i. Young horse under one year of age

_____j. Length of time for the development of the foal from time of breeding until birth

_____k. Plant or animal living in or on another organism (host), relying on that organism for existence and support without making a useful or adequate return

1. Antiseptic
2. Foal
3. Mare
4. Partruition
5. Stallion
6. Balanced ration
7. Placenta
8. Breed
9. Gestation
10. Parasite
11. Colostrum

2. Arrange in order the stages of evolutionary development of the horse. Place a "1" in front of the first stage, a "2" in front of the second, and so on.

_____a. Merychippus

_____b. Equus Caballus

_____c. Eohippus

_____d. Pliohippus

_____e. Mesohippus

3. Match the stages of evolutionary development of the horse on the right to the correct descriptions by placing the appropriate numbers in the blanks provided.

_____a. Size, intelligence, and speed increased into our "modern day horse"

_____b. About the size of collie dog with conformation similar to a deer; teeth and jaws slightly larger; front and rear feet had three toes with middle more pronounced

_____c. 10"-12"-high swamp-roaming animal with even teeth, slender legs, and short neck; front foot had four toes and rear had three toes

_____d. About the size of donkey with one toe called *hoof*; versatility and visibility greatly increased

_____e. Approximate size of small pony; became plains dweller as central toe enlarged and carried all the weight

1. Eohippus
2. Equus Caballus
3. Pliohippus
4. Merychippus
5. Mesohippus

4. Match the terms associated with the uses of horses on the right to the correct descriptions on the left. Place the appropriate numbers in the blanks provided.

_____a. Saddle horse trained to perform at the walk, trot, and canter

_____b. Used for pursuing game on horseback; usually implies following hounds

_____c. Used for any purpose one enjoys, such as caring for, riding, or raising horses

_____d. Exhibited in show arena in competition

_____e. Characterized by light harness, pulling light four-wheel vehicle

1. Three-gaited
2. Fine harness
3. Pleasure
4. Show
5. Hunting

_____f. Used for slow pleasure riding through woods, hills, and scenic areas

_____g. Characterized by smooth, 5-10 mph gait

_____h. Pulls four-wheel vehicle used for transportation

_____i. Used for working cattle or for general ranch work

_____j. Saddle horse trained to perform in five gaits: the walk, trot, canter, rack, and slow gait

_____k. Characterized by smooth, easy ride; often referred to as "a horse used for riding"

_____l. Used exclusively for young children, mostly for pleasure but sometimes for show

_____m. Characterized same as light harness, but equipment and harness are heavier

_____n. Used in various celebrations with highly decorative tack

_____o. Competes against other horses by running, pacing, or trotting

_____p. Applies to horses used for jumping high obstacles

_____q. Used for hunting and characterized by the ability to jump fences and low obstacles

6. Hunter-Jumper
7. Children's mount
8. Buggy
9. Parade
10. Five-gaited
11. Heavy harness
12. Stock
13. Saddle
14. Jumping
15. Trail
16. Racing
17. Fox-trot gait

5. Complete the following chart describing the major breeds of horses, including breed associations, origin, color, characteristics, and uses. The chart is continued on the next two pages.

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses
American Saddle Horse	American Saddle Horse Breeders' Association 929 4th Street Louisville, KY 40203 (502) 585-2425	______ ______ ______	Bay, brown, chestnut, gray, black	Long graceful neck, proud action, easy ride, lot of style and animation; 60"-64"; 1000-1200 lbs	______, five-gaited, ______, pleasure
Appaloosa	Appaloosa Horse Club, Inc. Box 8403 Moscow, ID 83843 (208) 882-5578	______ ______	Variable, usually dark with white over loin and hips containing spots thereon	Hoofs black and white vertically striped; skin mottled; eyes encircled by white; over 56"	Stock, pleasure, parade
Arabian	Arabian Horse Registry of America, Inc. 3435 S. Yosemite Denver, CO 80231 (303) 750-5626	______	Bay, chestnut, gray, occasionally white or black; skin always dark	Beautiful head, short coupling; docility, endurance, and proud way of going; 56"-61"	Saddle, stock
Connemara Pony	American Connemara Pony Society Hoshiekon Farm, R.D. 1 Goshen, CT 06756 (203) 491-3521	______	Gray, black, bay, brown, dun, cream with occasional roans and chestnuts	Range in height from ____ to ______ inches; noted for hardiness, docility, and soundness	______, fine harness, hunting
Hackney	American Hackney Horse Society P.O. Box 174 302 W. Clare Pittsfield, IL 62363 (217) 285-2472	______	Chestnut, bay, and brown most common; roans and blacks accepted	High natural action; mane pulled and tail docked for show purposes; 48"-64"	______, some cross breeding to produce hunter-jumpers

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses
Missouri Fox-Trotting Horse	Missouri Fox-Trotting Horse Breed Association, Inc. 201 S. E. Third Street P.O. Box 637 Ava, MO 65608 (417) 683-2468	________ ________ ________	________, white points	Fox-trot gait; 58"-62"	Pleasure, ________, and show
Morgan	American Morgan Horse Association P.O. Box 1 Westmoreland, NY 13490 (315) 736-8306	________ ________ ________	Bay, brown, black, and chestnut	Endurance, docility; 58"-64"	Saddle, stock
Paint	American Paint Horse Association P.O. Box 18519 Fort Worth, TX 76118 (817) 439-3400	________ ________	White plus any other color, but must be recognizable paint	________	Appaloosa coloring or breeding; adult horses under 56"
Palomino	Palomino Horse Breeders of America P.O. Box 249 Mineral Wells, TX 76067 (817) 325-2848	________ ________	Golden with light colored mane and tail; white points acceptable	Color breed; 58"-64"	Stock, pleasure, parade, saddle, fine harness
Pinto	Pinto Horse Association of America, Inc. 7525 Mission Gorge Road Suite C San Diego, CA 92120 (714) 286-1570	________ ________	Half dark and half white colors with many spots well placed	Glass eyes acceptable; over 56"	Show, pleasure, parade
Pony of the Americas	Pony of the Americas Club, Inc. 1452 Federal P.O. Box 1477 Mason City, IA 50401 (515) 424-1586	________ ________	Similar to ________	________ inches in height	________ ________

Breed	Address of Breed Associations	Place of Origin	Color	Distinguishing Characteristics	Uses
Quarter Horse	American Quarter Horse Association P.O. Box 200 Amarillo, TX (806) 376-4811	______ ______	______ sorrel, bay, dun; some are Palomino, black, brown, and roan	Well muscled, powerfully built; 56"-62"	Stock, pleasure, ______ ______
Shetland Pony	American Shetland Pony Club P.O. Box 435 Fowler, IN 47944 (317) 884-1242	______ ______	______ ______	Small size; less than 46"	______ ______, some fine harness
Standardbred	United States Trotting Association 750 Michigan Ave. Columbus, OH 43215 (614) 224-2291	______ ______	Bay, brown, chestnut, and black; grays, roans, and duns acceptable	More rugged than thoroughbred; 60"-64"	Racing, show, ______
Tennessee Walking Horse	Tennessee Walking Horse Breeders' and Exhibitors' Association of America 250 N. Ellington Parkway Box 286 Lewisburg, TN 37091 (615) 359-1574	______ ______	Sorrel, chestnut, black, roan, white, bay, brown, gray, and golden; white points common	______ ______ ______	______, some stock horses
Thoroughbred	The Jockey Club 300 Park Avenue New York, NY 10022 (212) 355-6146	______	Bay, brown, chestnut, and black; some roan and gray; white points	Fineness of conformation; long, straight, and well muscled legs; 60"-68"	Racing, stock, saddle, ______
Welsh Pony	Welsh Pony Society of America P.O. Drawer A White Post, VA 22663 (703) 667-6195	______	Any color except spotted	Small size; 40"-56"	Children's mounts, fine harness, ______

6. List seven job opportunities in the horse industry.

a. ____

b. ____

c. ____

d. ____

e. ____

f. ____

g. ____

7. Select from the list below factors to consider in buying a horse. Place an "X" in front of the correct answers.

_____a. Examination by veterinarian

_____b. Color

_____c. Places to purchase horse

_____d. Cost

_____e. Kind of riding equipment you own

_____f. Characteristics of horse

_____g. Experience of individual purchaser

_____h. Whether you own a trailer

_____i. Use of horse

8. Select from the following list factors which attribute to correct feeding practices. Place an "X" by the correct answers.

_____a. Horse should consume approximately 5% of body weight

_____b. Water should be fresh and easily accessible

_____c. Horse should not be permitted to drink heavily when hot or immediately before heavy activity

_____d. Changes in diet are not important

_____e. Grain should be increased and hay decreased as amount of work increases ______f. Feed must vary with individual horse and depends upon use, size, age, and weight of horse

______g. Ration should be balanced

______h. Times of feeding can vary

______i. Feed should not be made available to the horse within the hour immediately before or after strenuous activity

______j. Times of feeding should be consistent

______k. Horse should consume approximately 2.0-2.5% of body weight

______l. Changes in diet should be gradual, allowing digestive system to adapt accordingly

9. List health practices to be considered in horse production.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e. ______________________________

f. ______________________________

10. Explain the following fundamental breeding practices.

a. Estrous cycle of the mare

____

____

b. Selection of appropriate stallion

____

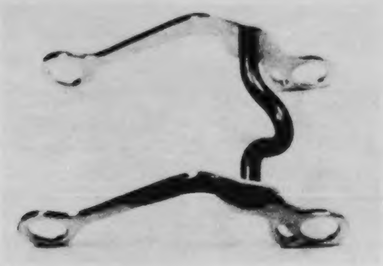
____

c. Age to breed mares

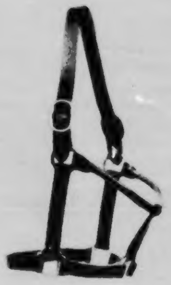
____

____

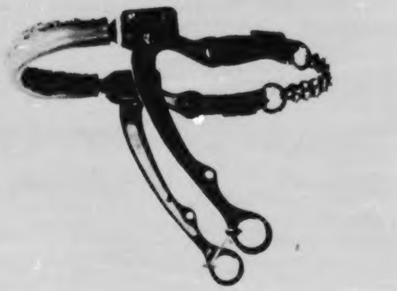
11. Identify the following items of tack and equipment.



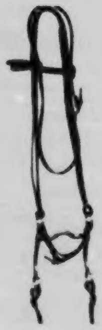
a.



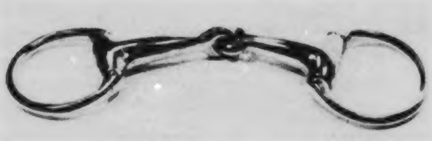
b.



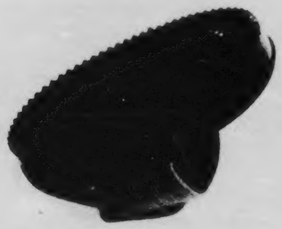
c.



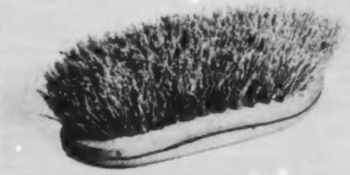
d.



e.



f.



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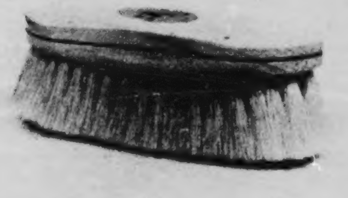


h.

d. Time of year to breed

____

____

____

e. Gestation length

____

____

____

f. Care of pregnant mare

____

____

____

g. Signs of approaching partruition

____

____

____

h. Foaling the mare

____

____

____

i. Care of mare after foaling

____

____

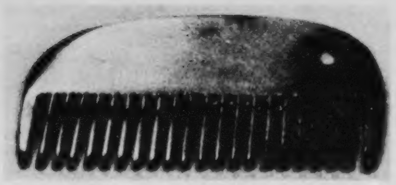
____

j. Care of foal

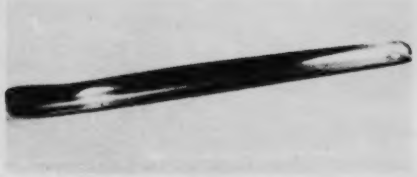
____

____

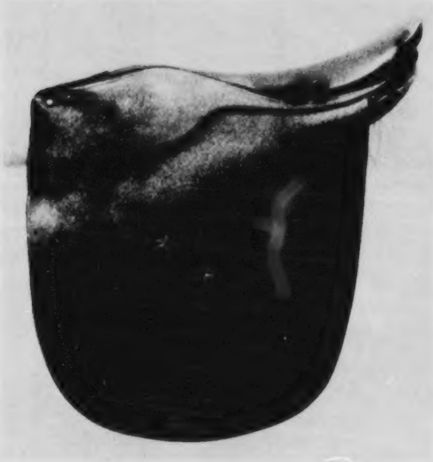
____



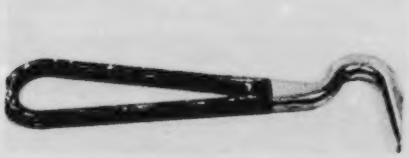
i. ______________________



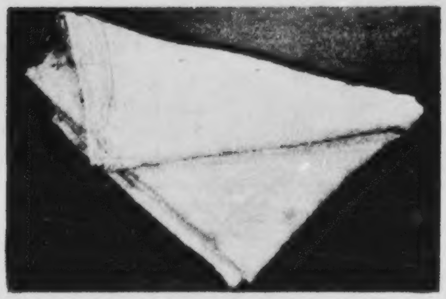
j. ______________________



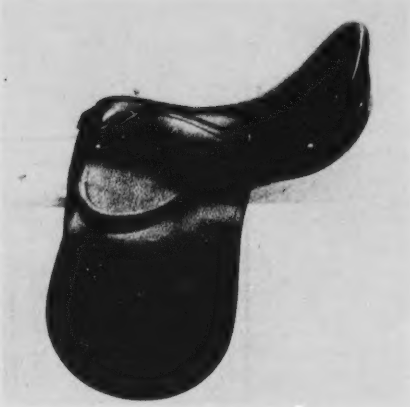
k. ______________________



l. ______________________

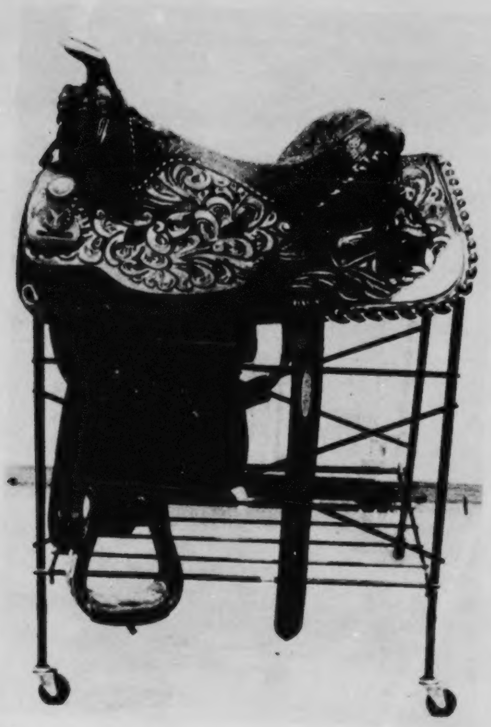


m. ______________________



n. ______________________

32-A



O. ______________________

BASIC HORSE PRODUCTION
UNIT I

ANSWERS TO TEST

1. a. 4
   b. 1
   c. 11
   d. 6
   e. 5
   f. 8
   g. 3
   h. 7
   i. 2
   j. 9
   k. 10
2. a. 3
   b. 5
   c. 1
   d. 4
   e. 2
3. a. 2
   b. 5
   c. 1
   d. 3
   e. 4

4. a. 1

   b. 5

   c. 3

   d. 4

   e. 2

   f. 15

   g. 17

   h. 8

   i. 12

   j. 10

   k. 13

   l. 7

   m. 11

   n. 9

   o. 16

   p. 14

   q. 6

5.

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses
American Saddle Horse	American Saddle Horse Breeders' Association 929 4th Street Louisville, KY 40203 (502) 585-2425	United States: Kentucky	Bay, brown, chestnut, gray, black	Long graceful neck, proud action, easy ride, lot of style and animation; 60"-64"; 1000-1200 lbs.	Three-gaited, five-gaited, fine harness, pleasure
Appaloosa	Appaloosa Horse Club, Inc. Box 8403 Moscow, ID 83843 (208) 882-5578	United States: Oregon, Washington, and Idaho regions	Variable, usually dark with white over loin and hips containing spots thereon	Hoofs black and white vertically striped; skin mottled; eyes encircled by white; over 56"	Stock, pleasure, parade
Arabian	Arabian Horse Registry of America, Inc. 3435 S. Yosemite Denver, CO 80231 (303) 750-5626	Arabia	Bay, chestnut, gray, occasionally white or black; skin always dark	Beautiful head, short coupling; docility, endurance, and proud way of going; 56"-61"	Saddle, stock
Connemara Pony	American Connemara Pony Society Hoshiekon Farm, R.D.1 Goshen, CT 06756 (203) 491-3521	Ireland	Gray, black, bay, brown, dun, cream, with occasional roans and chestnuts	Range in height from 52"-58"; noted for hardiness, docility, and soundness	Jumping, fine harness, hunting
Hackney	American Hackney Horse Society P.O. Box 174 302 W. Clare Pittsfield, IL 62363 (217) 491-2472	England	Chestnut, bay and brown most common; roans and blacks accepted	High natural action; mane pulled and tail docked for show purposes; 48-64"	Heavy harness, some cross breeding to produce hunter-jumpers

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses
Missouri Fox-Trotting Horse	Missouri Fox-Trotting Horse Breed Association, Inc. 201 S.E. Third Street P.O. Box 637 Ava, MO 65608 (417) 683-2468	United States: Ozark Mountains of Missouri	Sorrel, white points	Fox-trot gait; 58"-62"	Pleasure, trail, show
Morgan	American Morgan Horse Association P.O. Box 1 Westmoreland, NY 13490 (315) 736-8305	United States: New England states	Bay, brown, black, and chestnut	Endurance, docility; 58"-64"	Saddle, stock
Paint	American Paint Horse Association P.O. Box 18519 Fort Worth, TX 76118 (817) 439-3400	United States	White plus any other color, but must be recognizable paint	Over 56"	Appaloosa coloring or breeding; adult horses under 56"
Palomino	Palomino Horse Breeders of America P.O. Box 249 Mineral Wells, TX 76067 (817) 325-2848	United States	Golden with light colored mane and tail; white points acceptable	Color breed; 58"-64"	Stock, pleasure, parade, saddle, fine harness
Pinto	Pinto Horse Association of America, Inc. 7525 Mission Gorge Road Suite C San Diego, CA 92120 (714) 286-1570	United States	Half dark and half white colors with many spots well placed	Glass eyes acceptable; over 56"	Show, pleasure, parade
Pony of the Americas	Pony of the Americas Club, Inc. 1452 Federal P.O. Box 1477 Mason City, IA 50401 (515) 424-1586	United States: Iowa	Similar to Appaloosa	46"-52" in height	Children's mounts

Breed	Address of Breed Association	Place of Origin	Color	Distinguishing Characteristics	Uses
Quarter Horse	American Quarter Horse Association P.O. Box 200 Amarillo, TX (806) 376-4811	United States	Chestnut, sorrel, bay, dun; some are Palomino, black, brown, and roan	Well muscled, powerfully built; 56"-62"	Stock, pleasure, racing, show
Shetland Pony	American Shetland Pony Club P.O. Box 435 Fowler, IN 47944 (317) 884-1242	Shetland Isles	All colors acceptable	Small size; less than 46"	Children's mounts, some fine harness
Standardbred	United States Trotting Association 750 Michigan Ave. Columbus, OH 43215 (614) 224-2291	United States	Bay, brown, chestnut, and black; grays, roans, and duns acceptable	More rugged than thoroughbred; 60"-64"	Racing, show, buggy
Tennessee Walking Horse	Tennessee Walking Horse Breeders' and Exhibitors' Association of America 250 N. Ellington Parkway Box 286 Lewisburg, TN 37091 (615) 359-1574	United States: Tennessee	Sorrel, chestnut, black, roan, white, bay, brown, gray, and golden; white points common	Running walk gait; around 62"	Pleasure, some stock horses
Thoroughbred	The Jockey Club 300 Park Avenue New York, NY 10022 (212) 355-6146	England	Bay, brown, chestnut, and black; some roan and gray; white points	Fineness of conformation; long, straight, and well muscled legs; 60"-68"	Racing, stock, saddle, hunter-jumper
Welsh Pony	Welsh Pony Society of America P.O. Drawer A White Post, VA 22663 (703) 667-6195	Wales	Any color except spotted	Small size; 40"-56"	Children's mounts, fine harness, hunter-jumper

6. Any seven of the following:
    - a. Breed association representative
    - b. Exercise rider
    - c. Farm or ranch worker
    - d. Farrier
    - e. Horse show judge
    - f. Race track worker
    - g. Riding instructor
    - h. Stable manager
    - i. Trainer
    - j. Youth extension agent
    - k. Numerous other jobs which apply to horse related activities
7. a, c, d, f, g, i
8. b, c, e, f, g, i, j, k, l
9. a. Avoid public feeding and watering places
    - b. Administer proper vaccinations
    - c. Keep stalls clean of manure and urine
    - d. Maintain pastures and paddocks to eliminate manure accumulation
    - e. Remove hazardous obstacles from pastures and barn area
    - f. Maintain parasite control
10. a. Estrous cycle of the mare--Length of cycle is usually an average of 21 days, consisting of 5 days in heat and 16 days out of heat
    - b. Selection of appropriate stallion--Decision should be made by January of each year
    - c. Age to breed mares--Mares should not foal before three years of age, preferably four; many mares will continue to produce past twenty years of age
    - d. Time of year to breed--Spring foals are most popular due to registration guidelines and weather conditions

e. Gestation length--Eleven months or 336 days

f. Care of pregnant mare--Proper nutrition, good health practices, and sufficient exercise are major concerns

g. Signs of approaching partruition--Udder shows signs of waxing and dripping milk; mare exhibits restlessness

h. Foaling the mare--Location should be in clean meadow or sanitary foaling stall

i. Care of mare after foaling--Examination should be done by competent individual for abnormalities and shedding of the placenta

j. Care of the foal--Navel cord treated with antiseptic; enema given as precautionary measure; be certain foal has nursed for colostrum

11. a. Grazing bit

b. Halter

c. Mechanical hackamore

d. Bridle

e. Snaffle bit

f. Rubber curry comb

g. Root brush

h. Body brush

i. Mane and tail comb

j. Sweat scraper

k. Flat seat English saddle

l. Hoof pick or hook

m. Grooming cloth or rag

n. Forward seat English saddle

o. Stock seat Western saddle

HANDLING AND GROOMING
UNIT II

UNIT OBJECTIVE

After completion of this unit, the student should be able to select safety factors to consider when around horses and steps to take when physically approaching the horse. The student should be able to halter a horse, tie a quick release knot, groom a horse, and wash a horse. This knowledge will be evidenced by completion of the job sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with handling and grooming the horse.
2. Match parts of the nervous system to their functions.
3. Select from a list safety factors to consider when around horses.
4. Select from a list steps to take in physically approaching the horse.
5. Identify parts of the halter.
6. List rules for tying the horse.
7. Label the sensitive areas of the horse.
8. List reasons for grooming the horse.
9. Identify grooming equipment.
10. Match grooming equipment to the uses.
11. Demonstrate the ability to:
    a. Halter a horse.
    b. Tie a quick release knot.
    c. Groom a horse.
    d. Wash a horse.

HANDLING AND GROOMING
UNIT II

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide students with objective sheet.

   B. Provide students with information and job sheets.

   C. Discuss unit and specific objectives.

   D. Secure horses to halter, groom, and wash.

   E. Secure well-groomed horse for example.

   F. Demonstrate and discuss procedures outlined in job sheets.

   G. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Transparency master: TM 1--Parts of the Nervous System

   D. Job sheets

      1. Job Sheet #1--Halter a Horse

      2. Job Sheet #2--Tie a Quick Release Knot

      3. Job Sheet #3--Groom a Horse

      4. Job Sheet #4--Wash a Horse

   E. Test

   F. Answers to test

III. Unit references:

A. Frandson, R. D. *Anatomy and Physiology of Farm Animals.* Philadelphia, Pennsylvania: Lea and Febiger, 1974.

B. *Literature and Visuals for 4-H Horse Programs.* Chicago: National 4-H Council, 1978.

C. *The Illustrated Glossary of Horse Equipment.* San Luis Obispo, California: Vocational Education Productions, California Polytechnic State University, 1974.

D. Prince, Eleanor F., and Collier, Gaydell M. *Basic Horsemanship: English and Western.* Garden City, New York: Doubleday and Company, Inc., 1974.

HANDLING AND GROOMING
UNIT II

INFORMATION SHEET

I. Terms and definitions

   A. Bridle path--Area behind ears where mane is clipped to aid in fitting of bridle and halter

   B. Scurf--Flaking of outer layer of skin

   C. Bight--Curve or loop in a rope

   D. Vertebrae--Individual parts of spinal cord

II. Functions of the nervous system (Transparency 1)

   (NOTE: Since the nervous system is so complex, the description of parts is very difficult. One must realize that the nervous system operates as a complicated whole.)

   A. Cerebrum--Controls intelligence, memory, emotion, and senses; largest part of the brain

   B. Cerebellum--Responsible for muscular coordination and balance; small rear portion of the brain

   C. Medulla oblongata--Controls involuntary actions, such as heart beat, circulation, respiration, and body temperature; brain stem or slightly expanded upper end of the spinal cord

   D. Cranial nerves--Serve each side of the body; twelve pair emerge through openings in the skull, one-half of each pair serving one side of the body

   E. Sympathetic nerves--Activate "flight or fight" mechanism; react under stress and provide additional energy by increasing heart rate, raising blood pressure, dilating the bronchi, and diverting blood from the digestive area to the muscles

   F. Parasympathetic nerves--Soothe resting horse by lowering blood pressure, constricting the bronchi, and increasing digestive activity

   G. Spinal cord--Performs intermediary function between the brain and other parts of the body

   H. Brachial plexus--Supplies feeling to each of the forelimbs through a network of nerves

   I. Lumbo-scaral plexus--Supplies feeling to each of the hindlimbs through a network of nerves

INFORMATION SHEET

III. Safety factors to consider when around horses

- A. Always speak to horse when approaching horse in close quarters; do not surprise your horse
- B. Make physical contact with a horse by first placing your hand on its shoulder and neck; do not dab at end of horse's nose
- C. Move in a slow deliberate manner, approaching horse from near (left) side if possible
- D. Lead a horse by walking slightly ahead of it on its near (left) side
- E. Tie horse to secure object, using quick release knot
- F. Tie horse far enough away from other horses so they cannot fight; do not crowd other horses
- G. Always walk around horse, never under or over tie rope
- H. Always untie lead shank before taking halter off horse
- I. Remove or return horse from or to stall by standing in line with door before passing through it
- J. Handle horse with confidence for the horse will be the first to sense if you are frightened
- K. Respect horse for its strength and ability
- L. Be considerate; kindness and gentleness are important in getting the horse's cooperation
- M. Do not take chances of getting stepped on, kicked, or bitten

IV. Physical approach to the horse

- A. Speak to the horse as you approach
- B. Observe reactions of horse for indications of its intentions

  (NOTE: The ears are very good indicators.)
- C. Avoid any quick or unexpected movements
- D. Move toward horse slowly and quietly, but positively
- E. Approach horse by moving to its shoulder

  (NOTE: This is the safest location because a horse cannot paw or kick you in this area.)

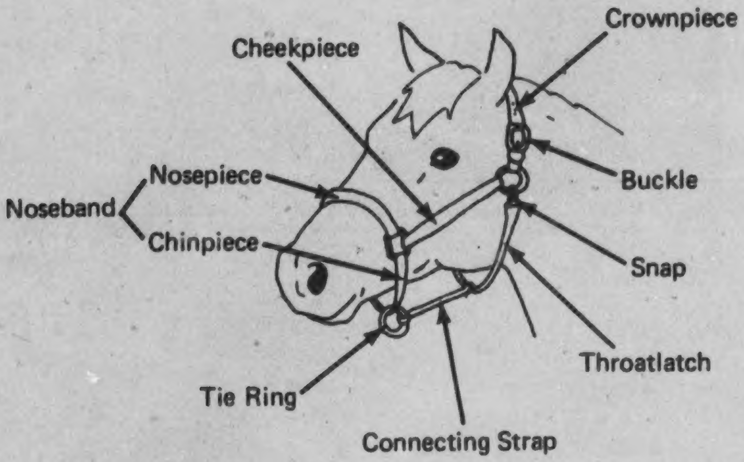
INFORMATION SHEET

F. Place hand on shoulder and rub gently to reassure horse against danger

G. Hold halter shank in hand nearest the horse and halter in opposite hand if attempting to catch the horse

(CAUTION: Never surprise a horse from behind. You are most likely to get kicked if you surprise a horse from the rear.)

V. Parts of the halter


Cheekpiece
Crownpiece
Nosepiece
Noseband
Chinpiece
Buckle
Snap
Throatlatch
Tie Ring
Connecting Strap

INFORMATION SHEET

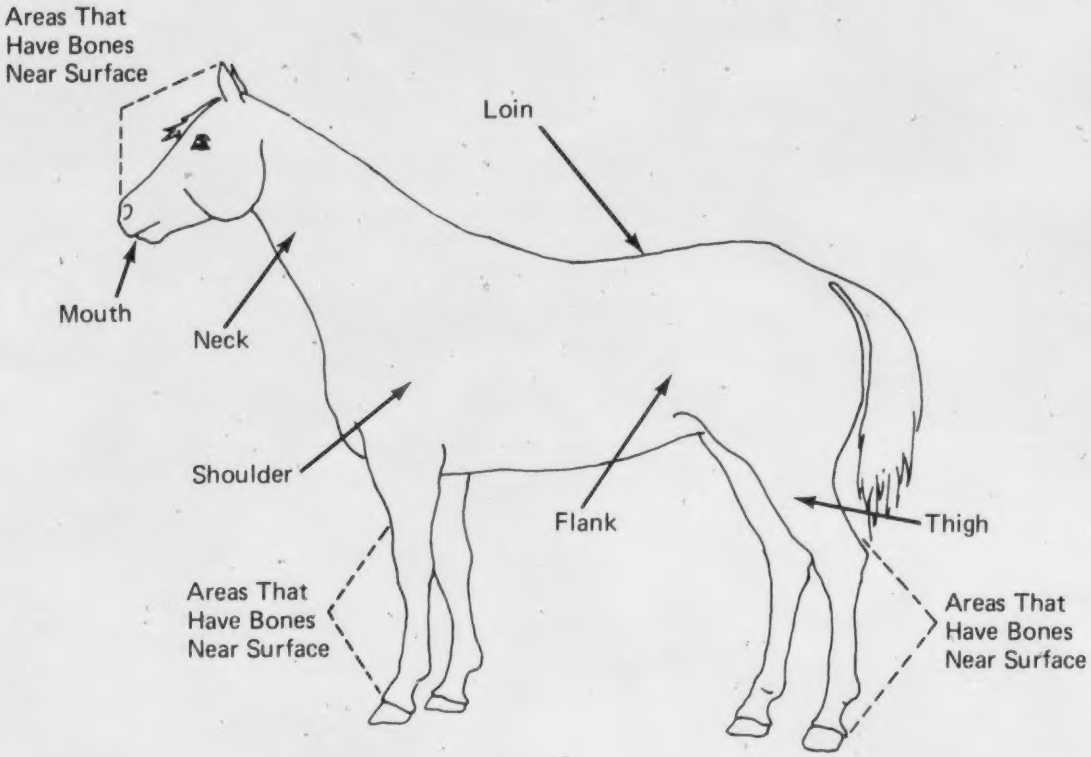
VI. Tying the horse

- A. Tie horse to secure object

  (NOTE: Never tie horse with bridle reins. Use halter with lead rope even if halter has to be slipped on over bridle.)

- B. Use a knot that can be untied quickly
- C. Tie horse 42-48 inches above the ground
- D. Leave 24-30 inches between knot and halter
- E. Tie horses at least 10 feet apart to avoid kicking and biting

VII. Sensitive areas of the horse


Areas That Have Bones Near Surface
Loin
Mouth
Neck
Shoulder
Flank
Thigh
Areas That Have Bones Near Surface
Areas That Have Bones Near Surface

INFORMATION SHEET

VIII. Reasons for grooming the horse

A. Remove dirt from horse's hair

B. Stimulate skin

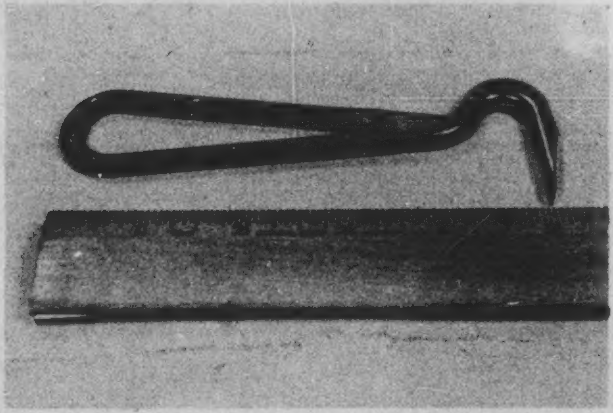
C. Aid in circulation

D. Give horse more attractive appearance

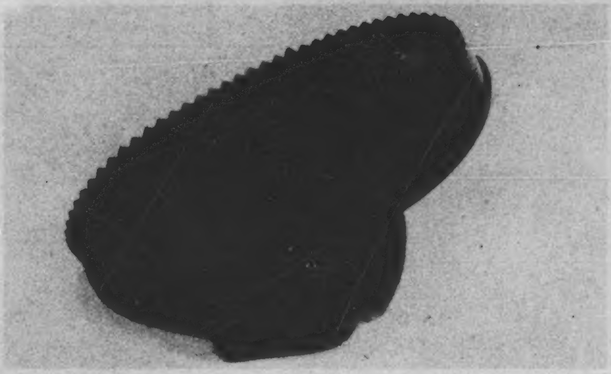
E. Guard against skin disorders

IX. Grooming equipment

A. Hoof pick

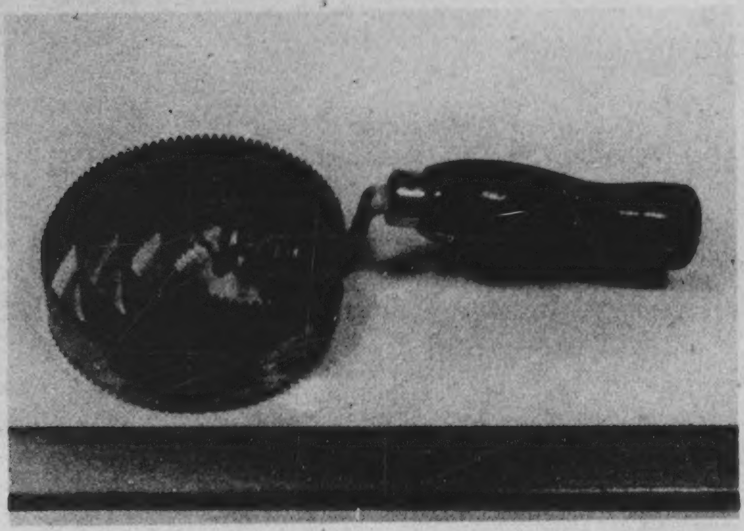


B. Rubber curry comb

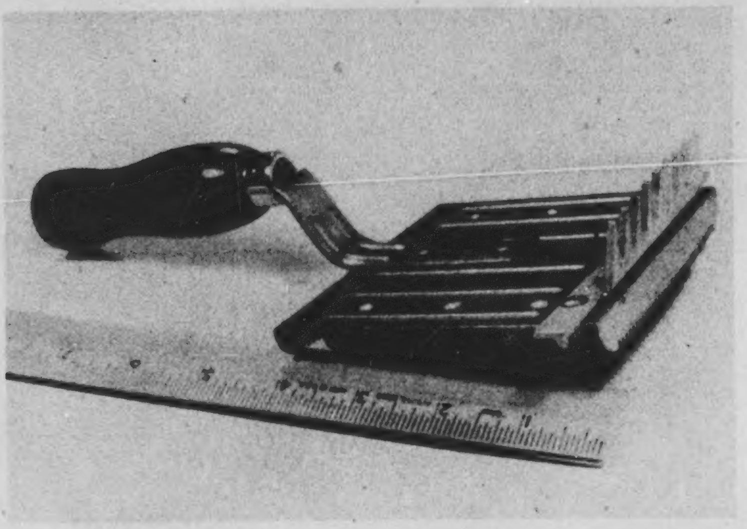


INFORMATION SHEET

C. Spring steel curry comb

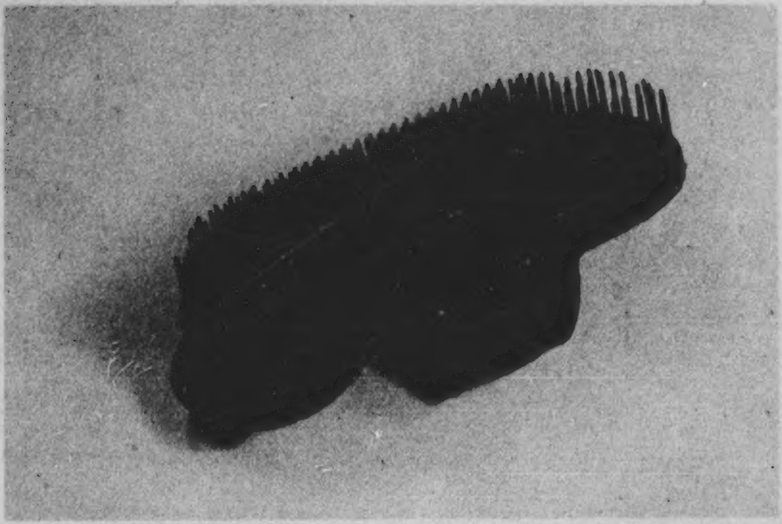


D. Rake or six bar curry comb

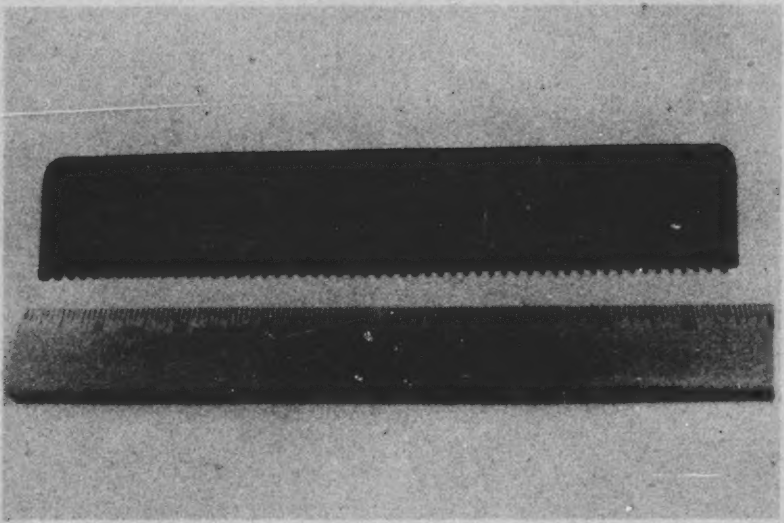


INFORMATION SHEET

E. Plastic massage comb

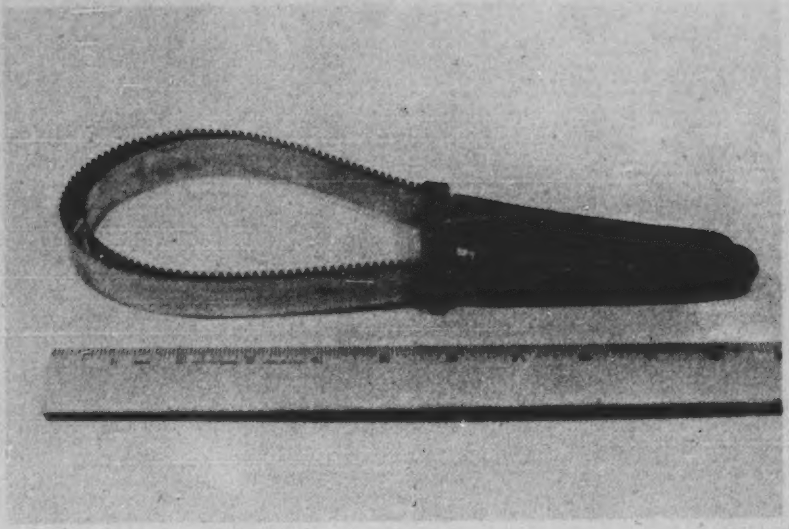


F. Mane comb

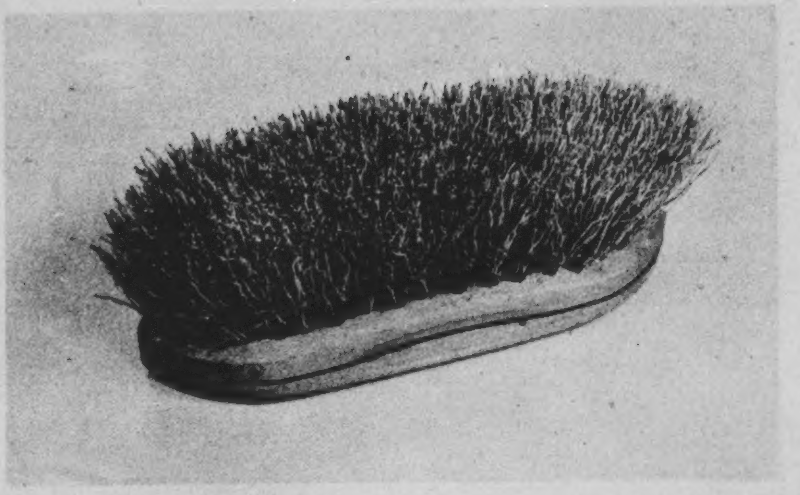


INFORMATION SHEET

G. Shed'n blade

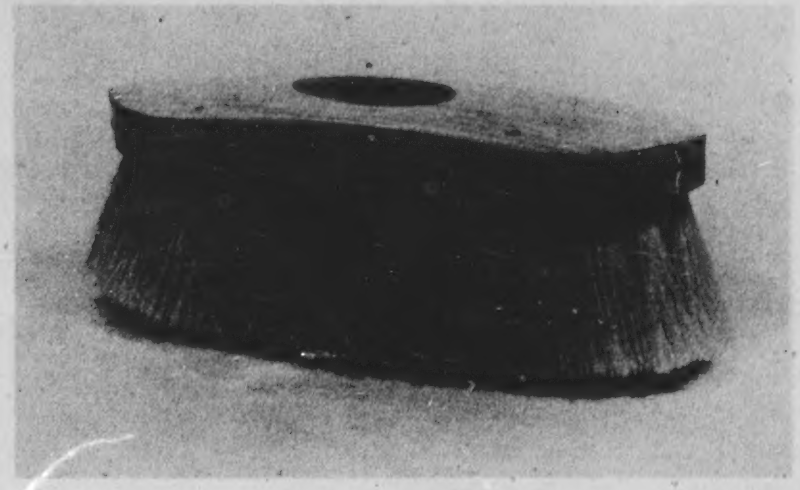


H. Root brush

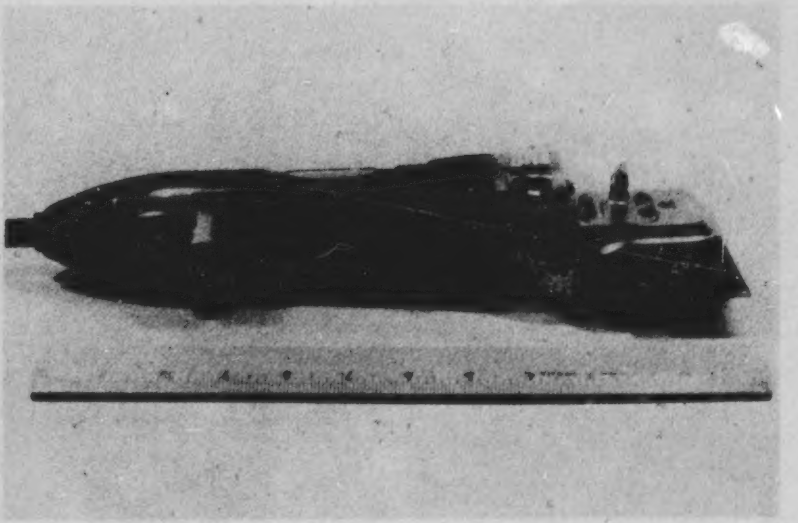


INFORMATION SHEET

I. Body brush

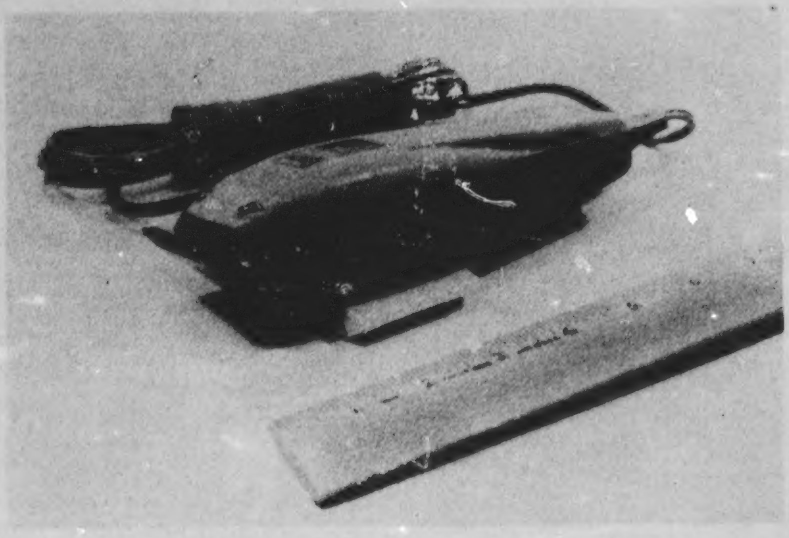


J. Large animal clippers

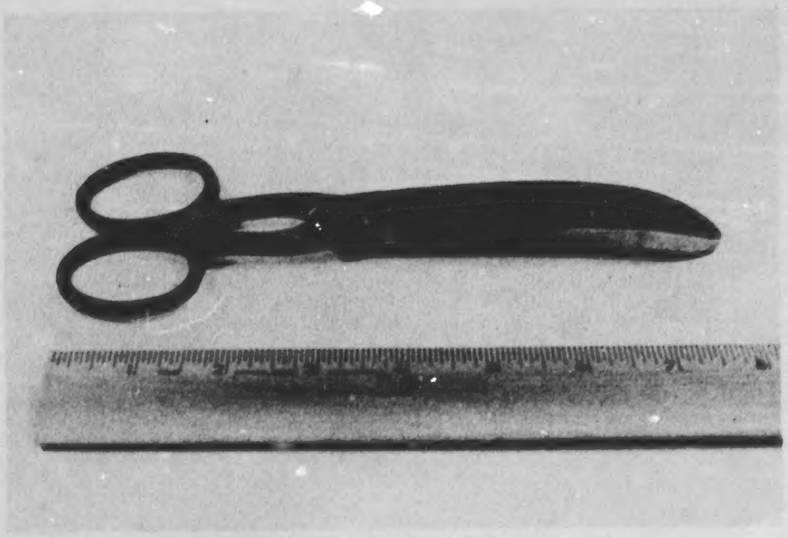


INFORMATION SHEET

K. Small animal clippers

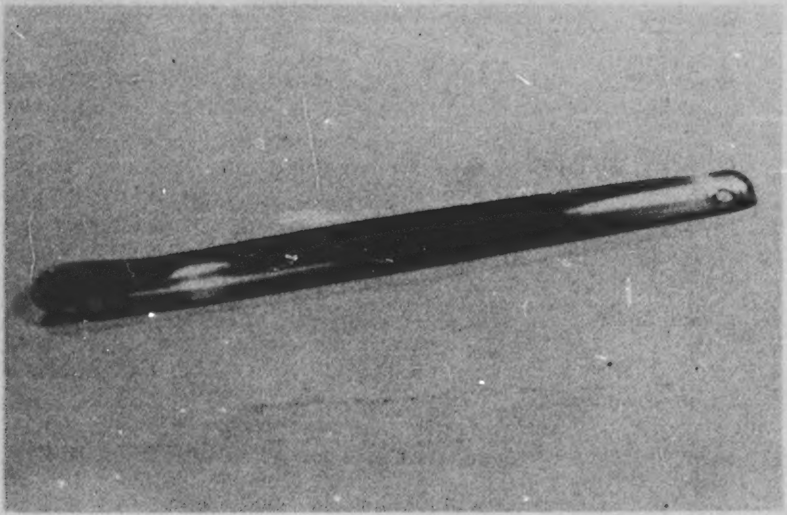


L. Roaching or fetlock shears

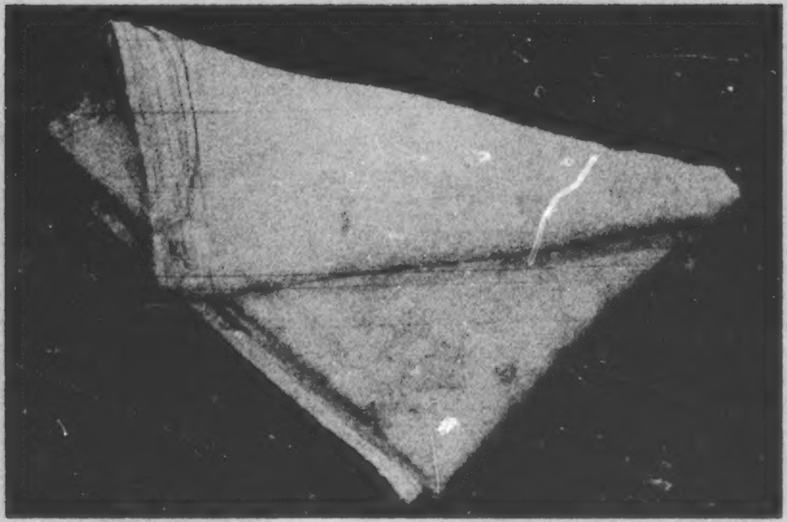


INFORMATION SHEET

M. Sweat scraper



N. Cloth or rag



INFORMATION SHEET

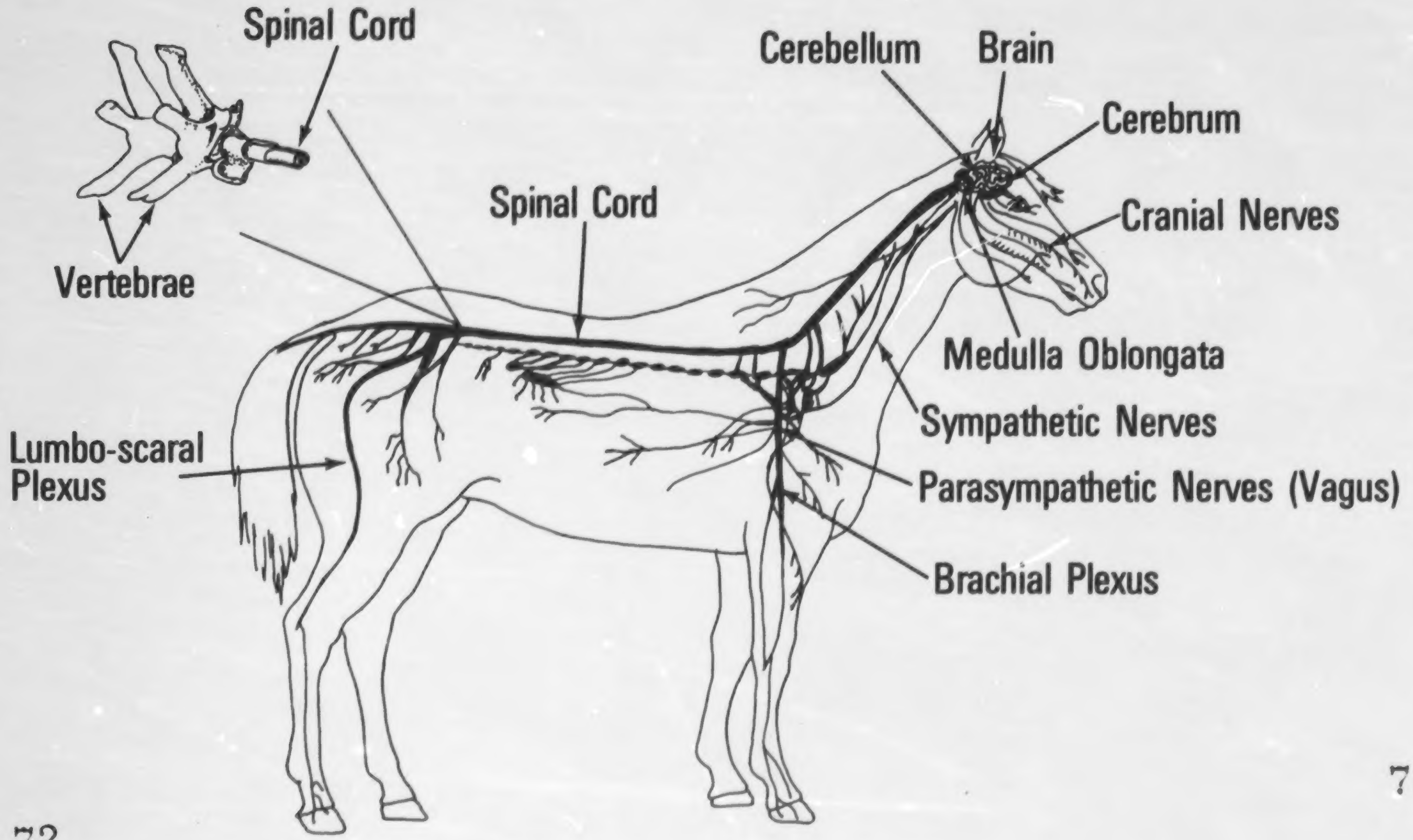
X. Grooming equipment and uses

- A. Hoof pick--Clean horse's hoofs
- B. Rubber curry comb--Lift dry sweat and dirt from the skin and act as a body massage comb
- C. Spring steel curry comb--Remove dried mud and dirt from well-muscled parts of the body
- D. Rake or six bar curry comb--Remove mud and dirt from the coat with the side containing six rows of teeth; comb mane and tail with single row of longer teeth

  (CAUTION: Combing mane and tail with metal comb causes ends of hairs to break and split.)
- E. Plastic massage comb--Massage skin and loosen dirt and scurf
- F. Mane comb--Comb mane and tail
- G. Shed'n blade--Remove loose, matted hair with teeth down; scrape sweat with smooth side
- H. Root brush--Remove dried sweat and dirt from thick coats
- I. Body brush--Remove dust from short coats
- J. Large animal clippers--Clip fetlock area and bridle path

  (CAUTION: To allow horse to overcome fear of clippers, introduce clippers to horse in a slow, deliberate manner.)
- K. Small animal clippers--Trim hair from ear, face, and jaw
- L. Roaching or fetlock shears--Trim fetlock and bridle path
- M. Sweat scraper--Remove sweat and water (after a bath)
- N. Cloth or rag--Increase shine by removing small particles missed by brushes

Parts of the Nervous System


Spinal Cord
Vertebrae
Spinal Cord
Cerebellum
Brain
Cerebrum
Cranial Nerves
Lumbo-scaral Plexus
Medulla Oblongata
Sympathetic Nerves
Parasympathetic Nerves (Vagus)
Brachial Plexus

HANDLING AND GROOMING
UNIT II

JOB SHEET #1--HALTER A HORSE

I. Equipment

   A. Horse in confined area

   B. Halter and lead

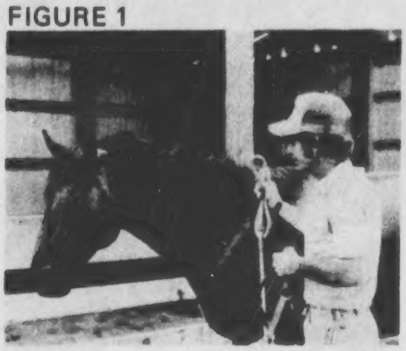
   (NOTE: Secure correct size of halter to fit horse.)

II. Procedure

   A. Approach horse from near (left) side with halter in left hand and lead in right (Figure 1)

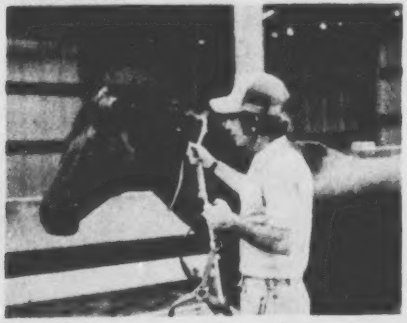
   (NOTE: Be sure to unfasten halter at snap or at crownpiece-buckle connection, depending on type of halter.)

FIGURE 1



   B. Place lead over horse's neck and secure with right hand (Figure 2)

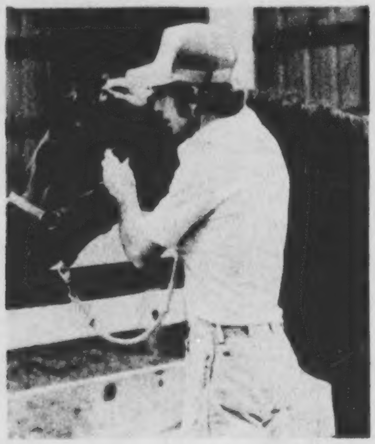
FIGURE 2



JOB SHEET #1

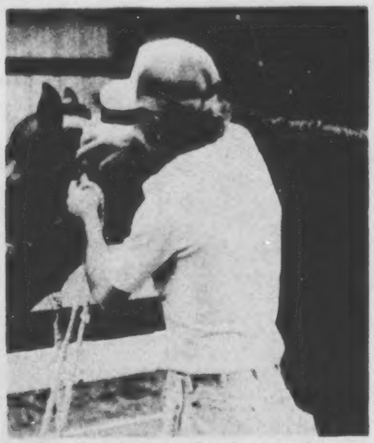
C. Take buckle in left hand and crownpiece in right, making sure three short parallel straps are on bottom; slip horse's nose through noseband; swing strap over from far side and place it behind ears, holding it with left hand (Figure 3)

FIGURE 3



D. Bring right hand back and attach buckle to crownpiece (Figure 4)

FIGURE 4



(NOTE: If halter has a snap, take halter by crownpiece with left hand and slip over nose and ears, making sure nosepiece is in place over nose. Secure snap on throatlatch to ring connecting cheekpiece; buckle.)

HANDLING AND GROOMING
UNIT II

JOB SHEET #2--TIE A QUICK RELEASE KNOT

I. Equipment

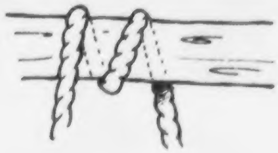
  A. Cotton rope

  B. Tie ring or rail

II. Procedure

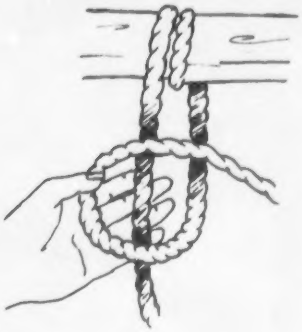
  A. Pass rope twice over rail from left to right (Figure 1)

FIGURE 1



  B. Make loop in end of rope and place it over standing part (Figure 2)

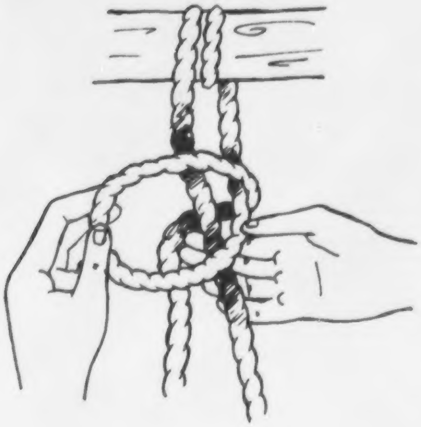
FIGURE 2



JOB SHEET #2

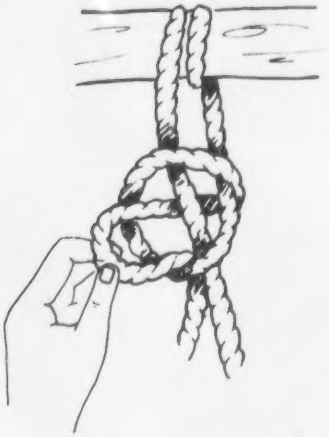
C. Pass the end behind both the standing part and the loop; push a bight in the end up through the loop (Figure 3)

FIGURE 3



D. Pull the bight to tighten the knot (Figure 4)

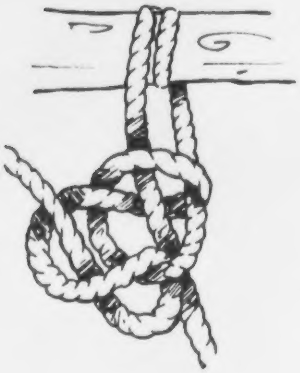
FIUGRE 4



JOB SHEET #2

E. Pass end of rope through the bight so horse cannot pull free and untie itself (Figure 5)

FIGURE 5



HANDLING AND GROOMING
UNIT II

JOB SHEET #3--GROOM A HORSE

I. Equipment needed

  A. Grooming tools

    1. Plastic massage comb
    2. Curry comb, spring steel or six bar
    3. Root brush
    4. Body brush
    5. Mane comb
    6. Large animal clippers
    7. Small animal clippers
    8. Hoof pick
    9. Cloth or rag

  B. Horse that needs grooming

II. Procedure

(CAUTION: All grooming equipment is safe but may create situations of danger when used in rough hands.)

  A. Start grooming procedure on near side (left side) of neck by using plastic massage comb

  (NOTE: If dried mud or manure is present, a curry comb will have to be used first.)

  B. Brush horse with massage comb, using a scrubbing motion

  C. Work your way backward, grooming carefully in areas that have bones near the surface

  D. Stay near horse as you move backward, observing its reaction to the grooming

  E. Use body or root brush when grooming over the hip bone and thigh area

  F. Walk back and away from the horse when changing sides

  (CAUTION: You are passing from the line of vision of one eye to the other with a blind spot between.)

JOB SHEET #3

G. Brush off side (right side) of horse in same manner as near side (left side)

H. Repeat procedure used with massage comb; then, use root brush if hair is long or body brush if hair is short

I. Use short, flicking strokes to remove loose dirt and scurf

(NOTE: The root or body brush will be good to use on head and face.)

J. Brush mane with massage comb and then comb with mane comb

K. Trim bridle path and fetlocks with large animal clippers

(NOTE: When trimming bridle path, approach area from behind horse's head rather than from in front.)

L. Trim head and face area with small animal clippers

M. Clean feet with hoof pick

N. Wipe horse with cloth or towel to increase shine

(NOTE: Steps in procedure may vary to some degree depending on individual preference.)

HANDLING AND GROOMING
UNIT II

JOB SHEET #4--WASH A HORSE

I. Equipment

A. Horse

B. Sponge or soft brush

C. Hose or bucket

D. Warm water

E. Sweat scraper

II. Procedure

A. Secure animal by tying or having someone hold horse

B. Wet horse thoroughly with warm water

(NOTE: This may be done with hose or bucket and sponge.)

C. Apply shampoo

D. Scrub against hair with sponge until area lathers

E. Rinse thoroughly with warm water

F. Scrape with sweat scraper

(CAUTION: Scrape gently around head and legs.)

G. Dry with clean dry towel or sponge, squeezing it out at intervals

H. Blanket horse and walk until completely dry

HANDLING AND GROOMING
UNIT II

TEST

NAME ______________________________ SCORE ______________

1. Define the following terms associated with handling and grooming the horse.

   a. Bridle path--______________________________

   ____

   b. Scurf--______________________________

   c. Bight--______________________________

   d. Vertebrae--______________________________

2. Match the parts of the nervous system to their correct functions by placing the appropriate numbers in the blanks provided.

______a. Supplies feeling to each of the hindlimbs through a network of nerves

______b. Activate "flight or fight" mechanism; react under stress and provide additional energy by increasing heart rate, raising blood pressure, dilating the bronchi, and diverting blood from the digestive area to the muscles

______c. Performs intermediary function between the brain and other parts of the body

______d. Responsible for muscular coordination and balance; small rear portion of the brain

______e. Controls intelligence, memory, emotion, and senses; largest part of the brain

______f. Soothe resting horse by lowering blood pressure, constricting the bronchi, and increasing digestive activity

______g. Controls involuntary actions, such as heart beat, circulation, respiration, and body temperature; brain stem or slightly expanded upper end of the spinal cord

1. Cerebrum
2. Cerebellum
3. Medulla oblongata
4. Cranial nerves
5. Sympathetic nerves
6. Parasympathetic nerves
7. Spinal cord
8. Brachial plexus
9. Lumbo-scaral plexus

______h. Supplies feeling to each of the forelimbs through a network of nerves

______i. Serve each side of the body; twelve pair emerge through openings in the skull, one-half of each pair serving one side of the body

3. Select from the list below safety factors to consider when around horses. Place an "X" in the appropriate blanks.

______a. Lead a horse by walking slightly ahead of it on its far (right) side

______b. Do not take chances of getting stepped on, kicked, or bitten

______c. Move in a slow deliberate manner, approaching horse from the front so it will be sure to see you

______d. Handle horse with confidence for the horse will be the first to sense if you are frightened

______e. Tie horse far enough away from other horses so they cannot fight; do not crowd other horses

______f. Tie horse with hard knot so it cannot get away

______g. Make physical contact with a horse by first placing your hand on its shoulder and neck; do not dab at end of horse's nose

4. Select from the list below steps to take in physically approaching the horse. Place an "X" in the appropriate blanks.

______a. Approach horse by moving to its shoulder

______b. Speak to the horse as you approach

______c. Slap horse on rear when approaching so it will know of your presence

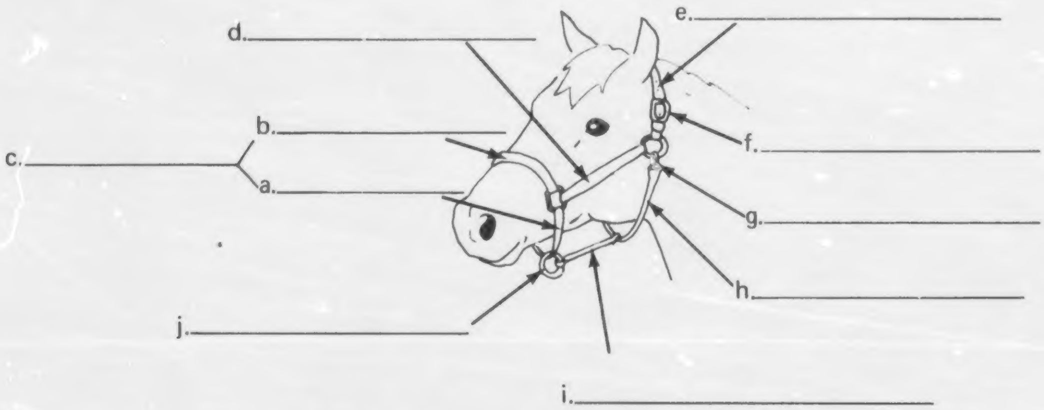
______d. Observe reactions of horse for indications of its intentions

______e. Hit horse on head if it won't hold still while you are trying to halter it

______f. Move toward horse slowly and quietly, but positively

______g. Hold halter shank in hand nearest the horse and halter in opposite hand if attempting to catch the horse

5. Identify the parts of the halter by writing the correct names in the blanks provided.



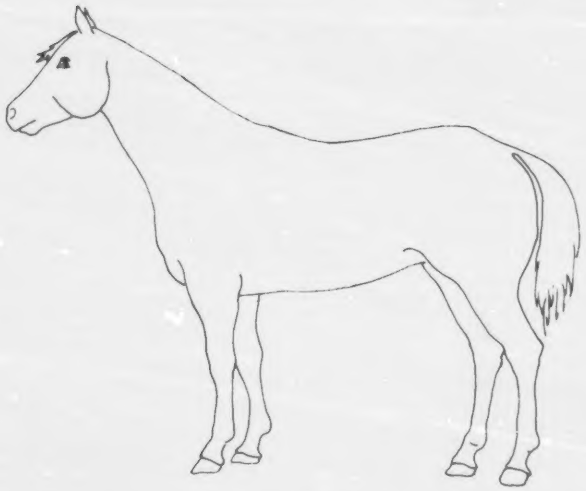
6. List three rules for tying the horse.

a. ____________________

b. ____________________

c. ____________________

7. Label the sensitive areas of the horse by marking the areas with an "X."



8. List four reasons for grooming the horse.

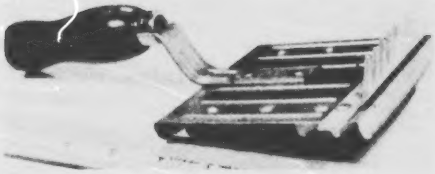
   a. ____________________

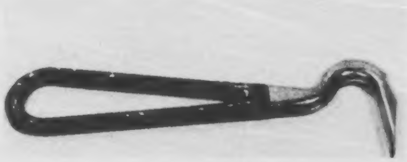
   b. ____________________

   c. ____________________

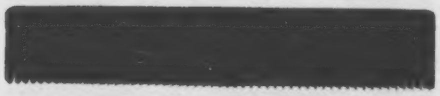
   d. ____________________

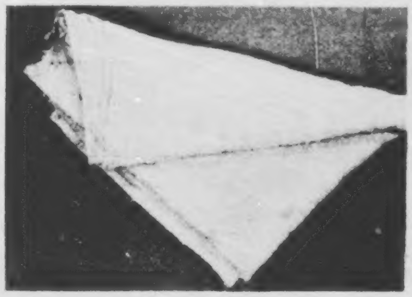
9. Identify the following grooming equipment by writing the correct names in the blanks under the pictures.



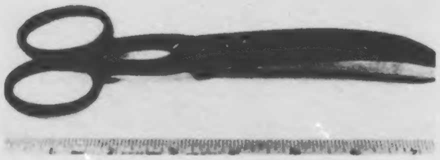


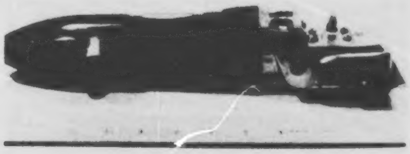
a. ____________________ b. ____________________



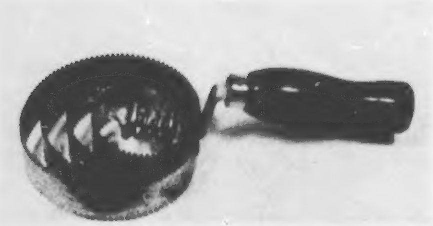


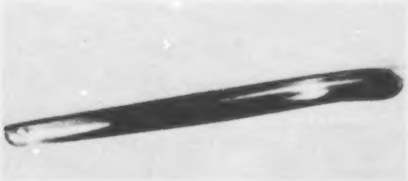
c. ____________________ d. ____________________





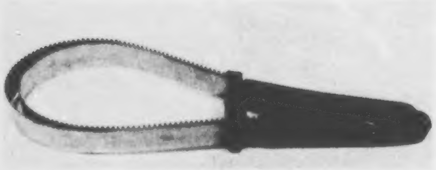
e. ____________________ f. ____________________

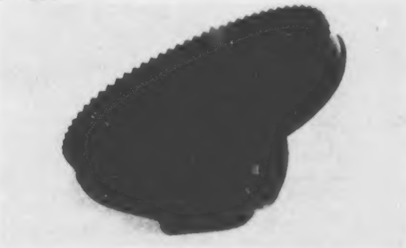




g. ______________________

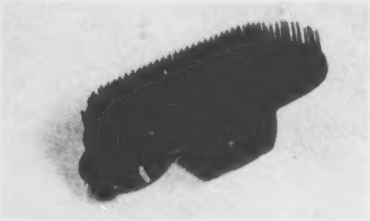
h. ______________________

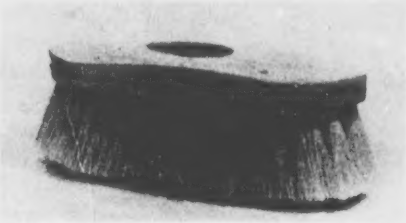




i. ______________________

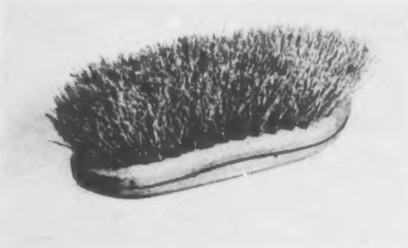
j. ______________________

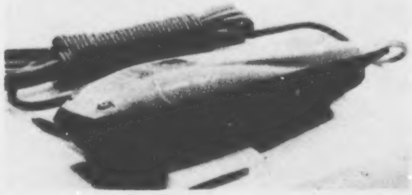




k. ______________________

l. ______________________





m. ______________________

n. ______________________

10. Match the grooming equipment on the right to the correct uses by placing the appropriate numbers in the blanks provided.

______a. Massage skin and loosen dirt and skurf

______b Remove dried mud and dirt from well-muscled parts of the body

______c. Increase shine by removing small particles missed by brushes

______d. Trim hair from ear, face, and jaw

______e. Clean horse's hoofs

______f. Remove dried sweat and dirt from thick coats

______g. Comb mane and tail

______h. Trim fetlock and bridle path

______i. Remove loose, matted hair with teeth down; scrape sweat with smooth side

______j. Clip fetlock area and bridle path

______k. Remove sweat and water (after a bath)

______l. Lift dry sweat and dirt from the skin and act as a body massage comb

______m. Remove dust from short coats

______n. Remove mud and dirt from the coat with the side containing six rows of teeth; comb mane and tail with single row of longer teeth

1. Hoof pick
2. Rubber curry comb
3. Spring steel curry comb
4. Rake or six bar curry comb
5. Plastic massage comb
6. Mane comb
7. Shed'n blade
8. Root brush
9. Body brush
10. Large animal clippers
11. Small animal clippers
12. Roaching or fetlock shears
13. Sweat scraper
14. Cloth or rag

11. Demonstrate the ability to:

a. Halter a horse.

b. Tie a quick release knot.

c. Groom a horse.

d. Wash a horse.

(NOTE: If the above activities have not been accomplished prior to the test, ask your instructor when they should be completed.)

HANDLING AND GROOMING
UNIT II

ANSWERS TO TEST

1. a. Bridle path--Area behind ears where mane is clipped to aid in fitting of bridle and halter

   b. Scurf--Flaking of outer layer of skin

   c. Bight--Curve or loop in a rope

   d. Vertebrae--Individual parts of spinal cord

2. a. 9

   b. 5

   c. 7

   d. 2

   e. 1

   f. 6

   g. 3

   h. 8

   i. 4

3. b, d, e, g

4. a, b, d, f, g

5. a. Chinpiece

   b. Nosepiece

   c. Noseband

   d. Cheekpiece

   e. Crownpiece

   f. Buckle

   g. Snap

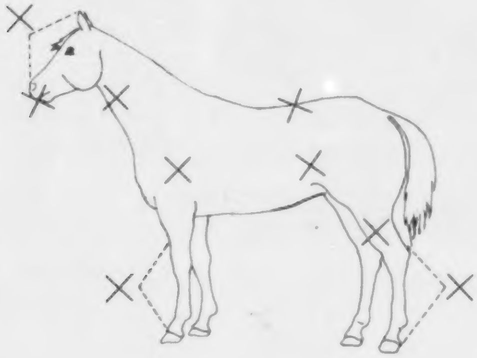
   h. Throatlatch

   i. Connecting strap

   j. Tie ring

6. Any three of the following:
   a. Tie horse to secure object
   b. Use a knot that can be untied quickly
   c. Tie horse 42-48 inches above the ground
   d. Leave 24-30 inches between knot and halter
   e. Tie horses at least 10 feet apart to avoid kicking and biting

7.



8. Any four of the following:
   a. Remove dirt from horse's hair
   b. Stimulate skin
   c. Aid in circulation
   d. Give horse more attractive appearance
   e. Guard against skin disorders

9. a. Rake or six bar curry comb
   b. Hoof pick
   c. Mane comb
   d. Cloth or rag
   e. Roaching or fetlock shears
   f. Large animal clippers
   g. Spring steel curry comb
   h. Sweat scraper

i. Shed'n blade

j. Rubber curry comb

k. Plastic massage comb

l. Body brush

m. Root brush

n. Small animal clippers

10.	a.	5	h.	12
	b.	3	i.	7
	c.	14	j.	10
	d.	11	k.	13
	e.	1	l.	2
	f.	8	m.	9
	g.	6	n.	4

11. Performance skills evaluated to satisfaction of instructor

HANDLING THE YOUNG, UNBROKEN HORSE
UNIT III

UNIT OBJECTIVE

After completion of this unit, the student should be able to select steps to take in physically approaching the young horse, discuss the use of voice aids, and list methods of halter breaking. The student should also be able to halter break a foal and teach horse to longe. This knowledge will be evidenced by completion of the job sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with handling the young, unbroken horse.
2. Match the stages of learning in a horse's training to the correct descriptions.
3. Describe the senses of the horse.
4. Match categories of the horse's behavior to the correct behavior.
5. List factors to consider in training the young horse.
6. Select from a list steps to take in physically approaching the young horse.
7. Discuss uses of voice aids with young horses.
8. List methods of halter breaking.
9. Demonstrate the ability to:
    a. Halter break a foal.
    b. Teach horse to longe.

HANDLING THE YOUNG, UNBROKEN HORSE
UNIT III

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information and job sheets.

   C. Discuss information sheet.

   D. Point out to students that this unit deals only with the first stage of learning in a horse's training.

   E. Make arrangements for horse(s) in order for students to complete job sheets.

   F. Demonstrate and discuss procedures outlined in job sheets.

   G. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Job sheets

      1. Job Sheet #1--Halter Break a Foal

      2. Job Sheet #2--Teach Horse to Longe

   D. Test

   E. Answers to test

III. Unit references:

   A. *Literature and Visuals for 4-H Horse Program.* Chicago: National 4-H Council, 1978.

   B. Stoneridge, M. A. *A Horse of Your Own*. Garden City, New York: Doubleday and Company, Inc., 1968.

HANDLING THE YOUNG, UNBROKEN HORSE
UNIT III

INFORMATION SHEET

I. Terms and definitions

   A. Horse breaking--Basics which horse must learn before training begins

   B. Training--Necessary lessons a horse must learn and skills horse must master in order to do any specialized work

   C. Young horse--Two-year-old, yearling, weanling, or suckling

II. Stages of learning in horse's training

   A. Early training of young horse--From birth until being ridden

   B. Breaking to ride--Teaching horse to accept rider and respond to basic handling aids, such as sound and touch of rider

   C. Training for basics--Teaching horse collection, correct head carriage, and accepting bit

   D. Specialized training--Developing horse's ability for certain tasks, such as cutting, roping, racing, jumping, or dressage

   E. Re-education--To correct training already completed or perfect work of horse already well-trained

III. Senses of horse

   A. Vision--Poor vision due to wide forehead, eyes perched laterally, and retina more concave in some places than others

   B. Hearing--Very good, superior to human's, due to shape of ears and ability to detect ground vibrations

   C. Smell--Good sense of smell; used to become familiar with strange objects, food, and, by stallion, to detect mare in heat

   D. Taste--Difficult for horse to detect differences in senses of taste and smell

   (NOTE: Horses enjoy salt, sugar, apples, and honey.)

   E. Touch--Skin highly specialized sensory organ; most sensitive in areas of mouth, feet, flanks, neck, and shoulders

INFORMATION SHEET

IV. Categories of behavior

- A. Ingestive--Taking of food or water into the digestive tract
- B. Eliminative--Elimination of waste by defecation or urination
- C. Sexual--All acts associated with mating process
- D. Contactual--Behavior generally considered the result of seeking affection or protection
- E. Investigative--Sensory inspection of environment which generally involves one or all of horse's senses
- F. Epimeletic--Giving of care and attention between horses; most common in mare-foal relationship
- G. Et-epimeletic--Exhibited by calling or movement by young and adult horses when separated from each other
- H. Agonistic--Includes all actions that are a result of or associated with conflict or fighting; includes aggression, submission, and attempts to escape
- I. Allelomimetic--Mimicry; contagious or undesired behavior

  Examples: Cribbing, kicking, biting, being hard to catch
- J. Dominance--Characterized by "pecking orders" which range from most dominant down to most submissive

V. Training the young horse

- A. Develop definite plan

  Example:
  1. Break to lead; halter break
  2. Teach to stand tied
  3. Groom
  4. Pick up feet
- B. Be consistent in use of training aids and cues used by trainer
- C. Do not expect horse to progress too rapidly
- D. Do not demand excessive work from young horse

  (NOTE: Foals have a short attention span and should not be worked for over 15 minutes at one time.)

INFORMATION SHEET

VI. Physically approaching the young horse

   A. Speak in soft voice

   B. Confine horse in corner of small area with horse facing you

   C. Place hands on shoulder first

   D. Place lead around neck

   E. Slip halter on very slowly

   F. Work slowly and deliberately but with confidence

VII. Uses of voice aids with young horses

   A. Tone of voice is most important; soothing tone of voice will have a calming effect on a horse

   B. Individual words of command can be taught if same tone of voice is used with each command

   C. Voice should be used to reward or correct young horses

   D. Voice should be used when other types of communication aids are not suitable

VIII. Methods of halter breaking

(NOTE: The younger and smaller the horse, the easier it will be to restrain.)

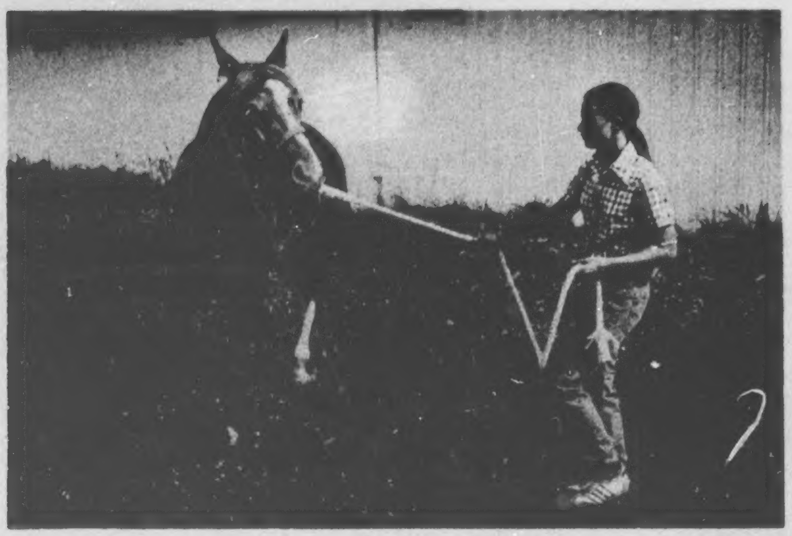
   A. Leading behind mare

   B. Using come-along or rump rope

   Example: Lariat looped around buttocks of foal

INFORMATION SHEET

C. Pulling horse laterally one step at a time until it starts to follow



HANDLING THE YOUNG, UNBROKEN HORSE
UNIT III

JOB SHEET #1--HALTER BREAK A FOAL

I. Equipment

A. Halter

B. Lead rope

C. Foal in small confined area

D. Rope, 10 feet, to use for rump rope

E. Tire inner tube

II. Procedure

(NOTE: Different methods may be used to halter break young horses. If the horse is already weaned, the following method will have to be modified.)

A. Approach foal in slow, deliberate manner, being careful not to get foal excited (Figure 1)

(NOTE: This may be done by using mother to crowd foal into corner. If foal is older, feed may be used.)

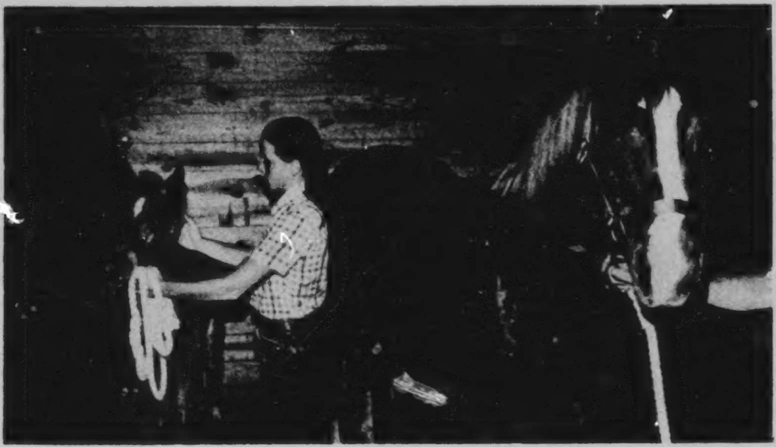
FIGURE 1

JOB SHEET #1

B. Slip halter on foal (Figure 2)

(NOTE: It is very important that halter is the proper size.)

FIGURE 2



C. Reassure foal that you are not going to harm it by gently rubbing on shoulder and speaking in a soft voice

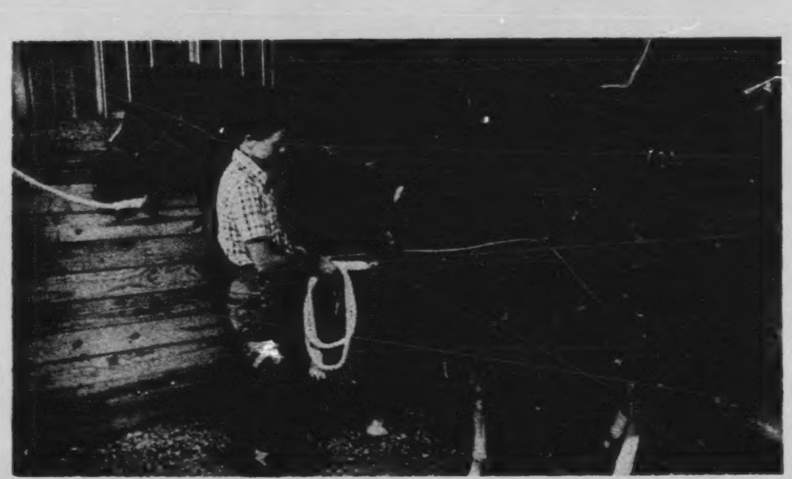
(NOTE: After haltering the foal, you may want to turn it loose with mother for a few days so it can get used to halter before attempting to teach it to lead.)

D. Snap lead rope in the halter ring

E. Place rump rope over hips with one end coming through the halter (Figure 3)

(NOTE: Baling twine or a soft rope is appropriate to use for the rump rope.)

FIGURE 3



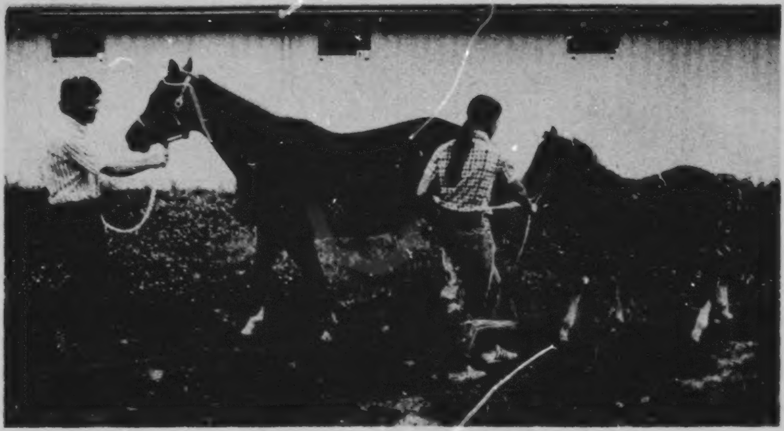
JOB SHEET #1

F. Lead mare out of stall and let foal follow

G. Stay in front of foal, pulling forward on lead rope and rump rope (Figure 4)

(CAUTION: When rump rope is tightened, foal may jump forward. Be careful not to get stepped on.)

FIGURE 4



H. Continue leading mare and foal around until foal is following the lead

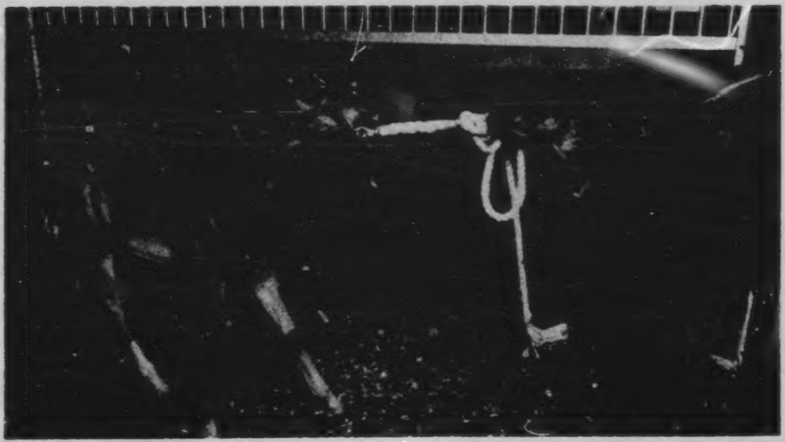
I. Work away from mare to help associate foal with being led instead of following mother

(NOTE: Continue process for short periods each day until satisfied with foal's progress.)

J. Teach foal to stand tied by using tire inner tube tied to barn wall or post in middle of pen (Figure 5)

(NOTE: Keep mother close by for security.)

FIGURE 5



JOB SHEET #1

K. Continue to work with foal in short sessions until foal stands tied and does not fight lead rope

L. Turn mare and foal back to pasture until weaning time once you are satisfied with foal's ability to lead and stand tied

HANDLING THE YOUNG, UNBROKEN HORSE
UNIT III

JOB SHEET #2--TEACH HORSE TO LONGE

I. Equipment

A. Longeing cavesson or well-fitted halter

B. Longe line

C. Longe whip

D. Splint boots

E. Young horse passed yearling age that has been taught to lead from either side, to stop, to stand, and to back

(NOTE: Some prefer to not longe a young horse until two years of age.)

F. Small pen, preferably round

G. Assistant

JOB SHEET #2

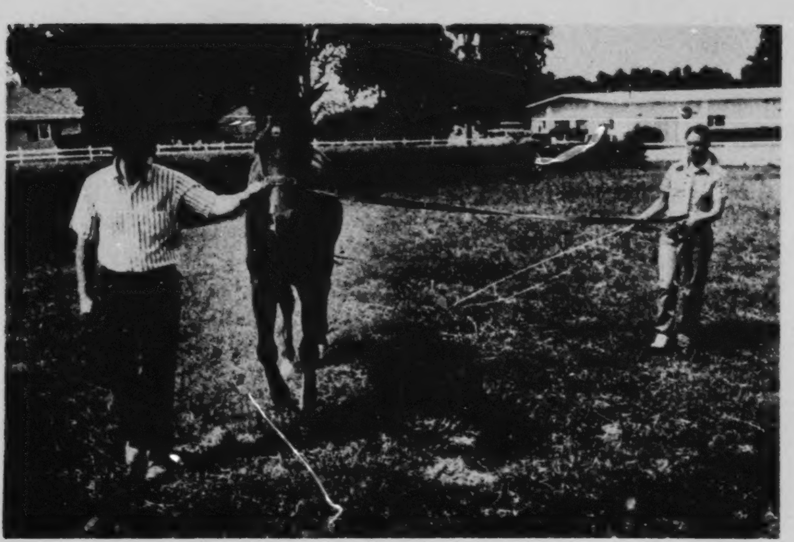
II. Procedure

A. Lead horse in circle so it can become accustomed to new equipment on head and splint boots on front legs (Figure 1)

FIGURE 1

B. With longe line in left hand, start young horse in circle to left by having assistant lead horse; make smaller circle in middle, staying slightly behind horse (Figure 2)

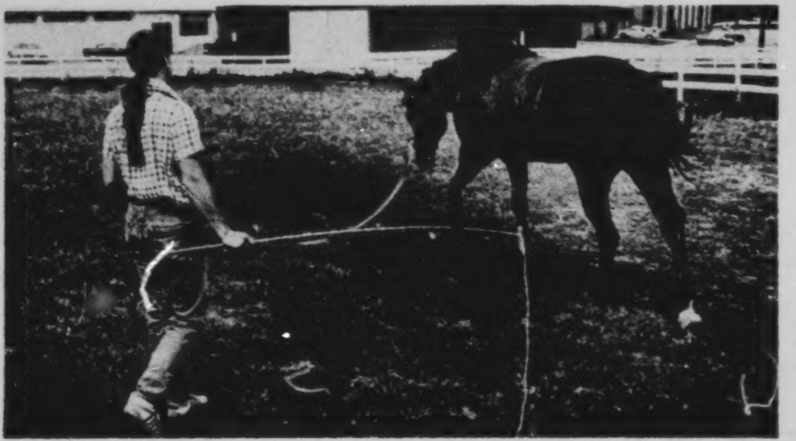
FIGURE 2



JOB SHEET #2

C. With longe line in left hand and whip in right, urge horse to continue moving forward as assistant moves away (Figure 3)

FIGURE 3



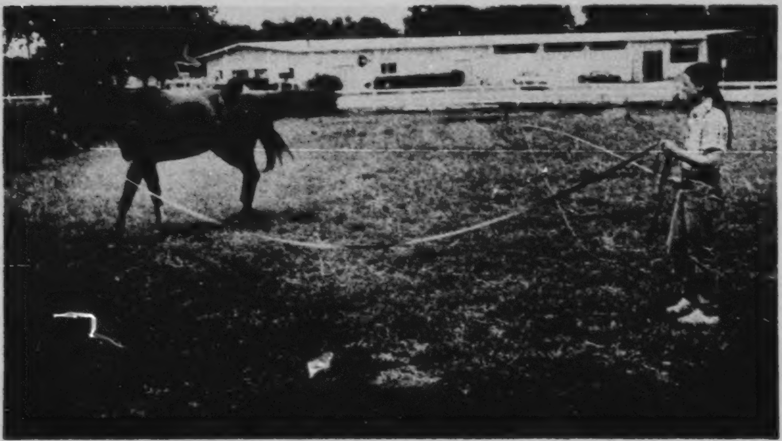
D. Work in small circle, reinforcing voice aids of horse stopping and standing on command

E. Work in both directions at a walk

F. Continue procedure with horse, increasing the perimeter of horse's circle while you decrease perimeter of your circle (Figure 4)

(NOTE: This should be continued until horse is moving in a large circle while you are standing in one spot.)

FIGURE 4



G. Teach horse to walk promptly and rapidly in both directions

H. Trot horse once walk is accomplished in good fashion

(CAUTION: Do not allow horse to bolt or try to run away. If so, start at walk.)

JOB SHEET #2

I. Work at trot in both directions

J. Canter horse once walk and trot are mastered

K. Make sure horse is on correct lead when cantering with good form and balance (Figure 5)

(NOTE: Horse should not pull on longe line or try to decrease size of circle.)

FIGURE 5

L. Change directions and size of circle often to keep horse from becoming frustrated

M. Keep lessons short (15-20 minutes) but stop on positive note

HANDLING THE YOUNG, UNBROKEN HORSE
UNIT III

TEST

NAME ______________________________ SCORE ____________

1. Define the following terms associated with handling the young, unbroken horse.

   a. Horse breaking--____
   ____

   b. Training--____
   ____

   c. Young horse--____
   ____

2. Match the stages of learning in a horse's training to the correct descriptions on the left. Place the appropriate numbers in the blanks provided.

   _____a. Teaching horse to accept rider and respond to basic handling aids, such as sound and touch of rider

   _____b. To correct training already completed or perfect work of horse already well-trained

   _____c. From birth until being ridden

   _____d. Teaching horse collection, correct head carriage, and accepting bit

   _____e. Developing horse's ability for certain tasks, such as cutting, roping, racing, jumping, or dressage

   1. Early training of young horse
   2. Breaking to ride
   3. Training for basics
   4. Specialized training
   5. Re-education

3. Describe the senses of the horse.

   a. Vision--____
   ____
   ____

b. Hearing-- ____

____

____

c. Smell-- ____

____

____

d. Taste-- ____

____

____

e. Touch-- ____

____

____

4. Match categories of the horse's behavior on the right to their correct definitions. Place the appropriate numbers in the blanks provided.

_____a. Behavior generally considered the result of seeking affection or protection

_____b. Mimicry; contagious or undesired behavior

_____c. Characterized by "pecking orders" which range from most dominant down to most submissive

_____d. Taking of food or water into the digestive tract

_____e. Giving of care and attention between horses; most common in mare-foal relationship

_____f. Sensory inspection of environment which generally involves one or all of horse's senses

_____g. Elimination of waste by defecation or urination

_____h. Exhibited by calling or movement by young and adult horses when separated from each other

1. Ingestive
2. Eliminative
3. Sexual
4. Contactual
5. Investigative
6. Epimeletic
7. Et-epimeletic
8. Agonistic
9. Allelomimetic
10. Dominance

INFORMATION SHEET

- F. Normal temperature, pulse, and respiration
- G. No visible wounds
- H. Normal feces and urine

III. Components essential for maintaining effective health care program

- A. Checking daily for injuries or disease
- B. Keeping accurate records
- C. Organizing immunization program
- D. Avoiding high risk situations

  Example: Barbed wire; mixing mares, stallions, and geldings in same pasture or paddock

- E. Being aware of equine diseases and latest research
- F. Maintaining good nutrition
- G. Controlling parasites
- H. Keeping teeth in good condition
- I. Grooming daily
- J. Administering hoof care
- K. Maintaining clean sheaths and udders

IV. Factors to consider in providing proper stable management

- A. Keeping stalls well lighted
- B. Cleaning stalls daily
- C. Providing proper ventilation
- D. Practicing rigid stable sanitation

  Examples: Provide individual feed and water containers

  Clean and disinfect feed and water containers at regular intervals

  Maintain control of flies, rodents, and birds

- E. Maintaining safety of animals and caretakers

HORSE HEALTH AND DISEASE PREVENTION
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Case history--Record of disorders, medications, immunizations, and other pertinent information about the horse

B. Immunization--Act of injecting substance in horse's system which causes resistance to disease

C. Infectious disease--Disorder which is capable of being easily spread from one horse to another

D. Noninfectious disease--Disorder which is not easily spread; caused by disorders of body functions and processes

E. Equine infectious anemia (swamp fever)--Infectious disease of the blood caused by a virus

F. Influenza--Acute viral infection involving respiratory tract; is very contagious

G. Strangles--Infectious disease characterized by inflammation of respiratory mucous membrane

H. Rhinopneumonitis--Inflammation of the nasal and pulmonary mucous membranes

I. Encephalomyelitis--Inflammation of the brain and spinal cord

J. Edema--Accumulation of abnormally large amounts of fluid between cells in the tissues

K. Colic--Painful digestive disturbance

L. Health certificate--Certification by veterinarian that horse is free of disease and injury

II. Characteristics of healthy horse

(NOTE: Without a balanced ration the following signs would not be valid.)

A. Contentment

B. Bright eyes and alert ears

C. Good appetite

D. Pliable skin and shiny coat

E. Mucous membranes of eyes and lips pink colored and moist

C. Ensminger, M. E. *Horses and Horsemanship*. Danville, IL: Interstate Printers and Publishers, Inc., 1969.

D. Evans, J. Warren; Borton, Anthony; Hintz, Harold E.; and Van Vleck, L. Dale. *The Horse*. San Francisco, California: W. H. Freeman & Co., 1977.

E. Weimeyer, Tara, and Weimeyer, Dutch. *Equine Forms.* 5501 Wild Rose Lane, Milford, Ohio 45150.

HORSE HEALTH AND DISEASE PREVENTION
UNIT I

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information and assignment sheets.

   C. Make transparency.

   D. Discuss unit and specific objectives.

   E. Discuss information and assignment sheet.

   F. Order recordkeeping forms for Assignment Sheet #1 from Equine Forms, Tara and Dutch Weimeyer, 5501 Wild Rose Lane, Milford, Ohio 45150.

   G. Emphasize preventive measures of health care.

   H. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Transparency master: TM 1--Immunization Table

   D. Assignment Sheet #1--Complete Forms on Horse Health

   E. Answers to assignment sheet

   F. Test

   G. Answers to test

III. Unit references:

   A. *Veterinary Treatments and Medications for Horsemen*. Grapevine, Texas: Equine Research Publications, 1977.

   B. *Veterinary Encyclopedia for Horsemen*. Grapevine, Texas: Equine Research Publications, 1977.

HORSE HEALTH AND DISEASE PREVENTION
UNIT I

UNIT OBJECTIVE

After completion of this unit, the student should be able to maintain a healthy horse and practice techniques of disease prevention. This knowledge will be evidenced through completion of assignment sheet and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with horse health and disease prevention to correct definitions.
2. List characteristics of the healthy horse.
3. Select from a list components essential for maintaining an effective health care program.
4. Select from a list factors to consider in providing proper stable management.
5. Describe factors to consider in daily observation of the horse.
6. Name diseases which may be prevented by immunization.
7. Describe treatment of new horse that has just been purchased or brought on farm/ranch.
8. Complete chart on infectious diseases.
9. Name means by which infectious diseases are passed from one horse to another.
10. Complete chart on noninfectious diseases.
11. Select from a list items to be recorded in case history.
12. Complete record forms on horse health.

5. a. Develop definite plan
   b. Be consistent in use of training aids and cues used by trainer
   c. Do not expect horse to progress too rapidly
   d. Do not demand excessive work from young horse
6. c, e, f
7. Discussion should include:
   a. Tone of voice is most important; soothing tone of voice will have a calming effect on a horse
   b. Individual words of command can be taught if same tone of voice is used with each command
   c. Voice should be used to reward or correct young horses
   d. Voice should be used when other types of communication aids are not suitable
8. a. Leading behind mare
   b. Using come-along or rump rope
   c. Pulling foal laterally one step at a time until he starts to follow
9. Performance skills evaluated to satisfaction of instructor

HANDLING THE YOUNG, UNBROKEN HORSE
UNIT III

ANSWERS TO TEST

1. a. Horse breaking--Basics which horse must learn before training begins

   b. Training--Necessary lessons a horse must learn and skills horse must master in order to do any specialized work

   c. Young horse--Two-year-old, yearling, weanling, or suckling

2. a. 2

   b. 5

   c. 1

   d. 3

   e. 4

3. Description should include:

   a. Vision--Poor vision due to wide forehead, eyes perched laterally, and retina more concave in some places than others

   b. Hearing--Very good, superior to human's, due to shape of ears and ability to detect ground vibrations

   c. Smell--Good sense of smell; used to become familiar with strange objects, food, and, by stallion, to detect mare in heat

   d. Taste--Difficult for horse to detect differences in senses of taste and smell

   e. Touch--Skin highly specialized sensory organ; most sensitive in areas of mouth, feet, flanks, neck, and shoulders

4. a. 4

   b. 9

   c. 10

   d. 1

   e. 6

   f. 5

   g. 2

   h. 7

   i. 8

   j. 3

8. List methods of halter breaking.

   a. ______________________________

   b. ______________________________

   c. ______________________________

9. Demonstrate the ability to:

   a. Halter break a foal.

   b. Teach horse to longe.

   (NOTE: If the above activities have not been accomplished prior to the test, ask your instructor when they should be completed.)

_____i. Includes all actions that are a result of or associated with conflict or fighting; includes aggression, submission, and attempts to escape

_____j. All acts associated with mating process

5. List factors to consider in training the young horse.

a. ____

b. ____

c. ____

d. ____

6. Select from the list below steps to take in physically approaching the young horse. Place an "X" in the appropriate blanks.

_____a. Lasso the young horse

_____b. Speak in loud, firm voice

_____c. Confine horse in corner of small area with horse facing you

_____d. Use whip on horse until it stands to face you

_____e. Work slowly and deliberately but with confidence

_____f. Place hands on shoulder first

7. Discuss the uses of voice aids with young horses.

____

____

____

____

____

____

____

____

INFORMATION SHEET

VIII. Infectious diseases

(NOTE: Most infectious diseases are caused by some type of virus or bacteria.)

Disease	Primary Characteristics	Prevention	Treatment
Influenza	Fever of 101-105°F (38-40°C); watery nasal discharge	Vaccination; isolation of new animals	Good nursing care
Strangles	Enlarged lymph nodes; nasal discharge watery at first, then thick mucus; fever of 102-105°F (39-40°C)	Isolation of new animals; vaccinate all animals with killed vaccine	Antibiotics
Pneumonia	Fever of 102-105°F (39-40°C); chest pains, lung congestion, difficulty in breathing	Good management; avoid chills and stress; provide proper ventilation	Antibiotics when cause is bacterial
Rhinopneumonitis	Fever of 102-106°F (39-41°C); coughing; clear nasal discharge; abortion primarily in last third of gestation	Modified live virus vaccine	No treatment
Viral arteritis	Fever of 102-106°F (39-41°C); abortion	No vaccine available	Good nursing care
Equine encephalomyelitis (sleeping sickness)	Brain lesions, drowsiness, fever; lower lip drops; difficulty in walking	Vaccination	Good nursing care
Equine infectious anemia (swamp fever)	Fever of 104-108°F (40-42°C); weakness, jaundice, edema of ventral abdomen	Use of Coggins test to detect carriers	No treatment
Tetanus (lockjaw)	Muscular rigidity; prolapse of third eyelid	Tetanus toxoid or antitoxin	Very little; mortality rate high
Anthrax	High fever; edema about throat, lower neck, and chest; lasts approximately 48-96 hours	Use vaccines only in an epidemic area	Antibiotics, antianthrax serum

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INFORMATION SHEET

V. Factors to consider in daily observation of the horse

   A. Wounds--Closely observe body for cuts, scratches, and/or swelling

   B. Appetite--Horse should be eating about 2.0-2.5 lbs (0.9-1.13 kg) of feed per 100 lbs (45.36 kg) of body weight

   C. General appearance--Alertness in eyes and ears; hair coat shiny; pliable skin

   (CAUTION: Mucous discharge from eyes and/or nose may indicate infectious disease.)

   D. Symptoms of pain--Restlessness, tail-wringing, and biting and/or kicking at abdomen

   E. Lameness--Move horse and observe for soreness in limbs

   F. Fecal droppings--Consistency should be formed fecal balls

   (CAUTION: Liquid or very hard droppings require attention.)

VI. Diseases which may be prevented by immunization (Transparency 1)

   A. Strangles

   B. Tetanus

   C. Influenza

   D. Encephalomyelitis (eastern and western)

   E. Venezuelan equine encephalomyelitis

   F. Rhinopneumonitis

VII. Treatment of new horse that has just been purchased or brought on farm/ranch

   A. Require negative equine infectious anemia exam (Coggins test)

   B. Check health records

   C. Immunize for diseases not currently covered

   D. Isolate for period of three weeks

   E. Deworm if not recently done

INFORMATION SHEET

XI. Items to be recorded in case history

(NOTE: Each horse is to have separate record. A good case history is helpful and sometimes essential in diagnosis of disease.)

A. Age, breed, color, and sex

(NOTE: Be specific on sex. State whether male is gelded or still intact.)

B. Immunization history

C. Past illnesses, injuries, and allergies

D. Past medications

E. Deworming dates and anthelmintics

F. Dental records

G. Ration

H. Use

I. Past ownerships

J. Farrier records

INFORMATION SHEET

IX. Means by which infectious diseases are passed from one horse to another

- A. Feed containers
- B. Water containers
- C. Hypodermic needles
- D. Close contact

X. Noninfectious diseases

Condition	Cause	Primary Characteristics	Prevention	Treatment
Colic	Parasites; overfeeding; moldy feed; twisted intestines	Abdominal pain; kicking at belly; rolling; sawhorse posture	Parasite control; proper feeding methods	Walking; laxatives; analgesics; surgery in some cases
Pulmonary emphysema	Not well defined--perhaps allergic response	Coughing; heave line	Prevent and treat respiratory infections; control stable dust	Control dust; provide fresh air; give antihistamine drugs
Roaring	Damage to recurrent laryngeal nerve	Noise during inspiration	Prevent and treat respiratory infections	Surgery
Azoturia (Monday morning sickness)	Unknown, but condition occurs when animal is exercised heavily, fed a heavy ration, and then rested a few days while still being fed a heavy ration	Stiff gait; reluctance to move; dark-colored urine	Reduce feed intake when animal is not working	Injections of thiamin, vitamin E, and selenium are frequently used
Laminitis (founder)	Overeating; retained placenta; allowing to drink water while hot	Lameness; heat in hoof; drop of coffin bone	Maintain a sound feeding program; do not keep horses too fat	Acute: obtain immediate veterinary attention. Chronic: perform corrective trimming and shoeing

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Immunization Table

DISEASE	PRODUCT	INITIAL IMMUNIZATION	ANNUAL BOOSTER
Strangles	Bacterin	1st dose; 2nd dose in 7 days; 3rd dose in 7 days	Single dose annually
Tetanus	Bacterial toxoid	1st dose; 2nd dose in 4-8 weeks	Single dose annually
Influenza	Killed virus vaccine	1st dose; 2nd dose in 6-12 weeks	Single dose annually
Encephalomyelitis (eastern & western)	Killed virus vaccine	1st dose; 2nd dose in 7-10 days	Repeat series annually
Rhinopneumonitis	Intramuscular type live virus	(a) Pregnant mares: 1st dose after 2nd month of pregnancy & again at the 5th-7th month. (b) All other horses: 1st dose; 2nd dose in 4 weeks	Single dose annually

Data derived from proceedings of Horse Production Short Course, Texas A&M University, January 1974.

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HORSE HEALTH AND DISEASE PREVENTION
UNIT I

ASSIGNMENT SHEET #1--COMPLETE FORMS ON HORSE HEALTH

Using the registration papers and Coggins exam that follow and the information below, complete the health record forms provided. Two sets of health record forms have been provided. One set is for recording information from the previous year, if necessary. The second set is for recording current year's information.

Use today's date as the date you begin recording information. The horse was bought 15 days ago for a purchase price of $1250.00. The horse arrived at the farm/ranch five days ago. The transportation cost was $20.00. The horse is 15 1/2 hands high and has O negative blood. As the owner, you place the horse in pasture #7 at night and in stall #12 in the daytime. The horse's collar number is 161. The Coggins exam was issued 30 days ago. The horse's immunization record is as follows:

Venezuelan and Eastern/Western Encephalomyelitis	March 6
Tetanus antitoxin	March 6
Strangles	October 12
Influenza	October 12
Rhinopneumonitis	April 5, Sept. 8
Farrier (cost each visit, $7.00)	Jan. 5, Mar. 3, May 2, July 2, Sept. 8, Oct. 15
Attacks of colic	Oct. 23, Nov. 9
Deworming	Mar. 6, May 2, Aug. 6
Administered 15 cc of penicillin for cough	Sept. 2, 6, 8

EQU - 15-B

Certificate of Registration

THE AMERICAN QUARTER HORSE ASSOCIATION

NAME JON ANDREW

NUMBER 1320650

STATE FOALED OKLAHOMA

COLOR DUN

SEX STALLION

FOALED MAY 12, 1977

BREEDER HATFIELD DONALD H

CITY PONCA CITY

STATE OKLAHOMA

OWNER HATFIELD DONALD H

CITY PONCA CITY

STATE OKLAHOMA

SIRE ROMA JET 775994

SIRE'S SIRE JET DECK 167014

DAM PONCA DOLL 864622

DAM'S SIRE JET SMOOTH 481244

MARKINGS STAR, STRIP, AND SNIP. NO OTHER MARKINGS.

SAMPLE

This is to certify that the above named and described horse has been registered in the Stud Book of The American Quarter Horse Association. This certificate is issued in reliance on a written application submitted and attested by the owner at time of foaling; and upon the express condition that the Association has the privilege to correct and/or cancel this certificate for cause under its rules and regulations.

Ronald Blackwell

EXECUTIVE SECRETARY

DATE ISSUED JANUARY 27, 1978

TRANSFER RECORD

The last name entered hereunder is the present owner of this horse as shown on the records of The American Quarter Horse Association. To transfer the within described horse, make transfer on a separate transfer form or bill of sale, which will be furnished free by the ASSOCIATION. Send it to the office of the American Quarter Horse Association------along with the registration certificate and the transfer fee. The transfer of ownership will then be made on this certificate and mailed as instructed.

FOR OFFICE USE ONLY – DO NOT WRITE ON THIS CERTIFICATE

Date of Purchase	Name and Address of Owner as Shown by Transfer Record	Attest of Record by Secretary

Copyright 1974, AMERICAN QUARTER HORSE ASSOCIATION

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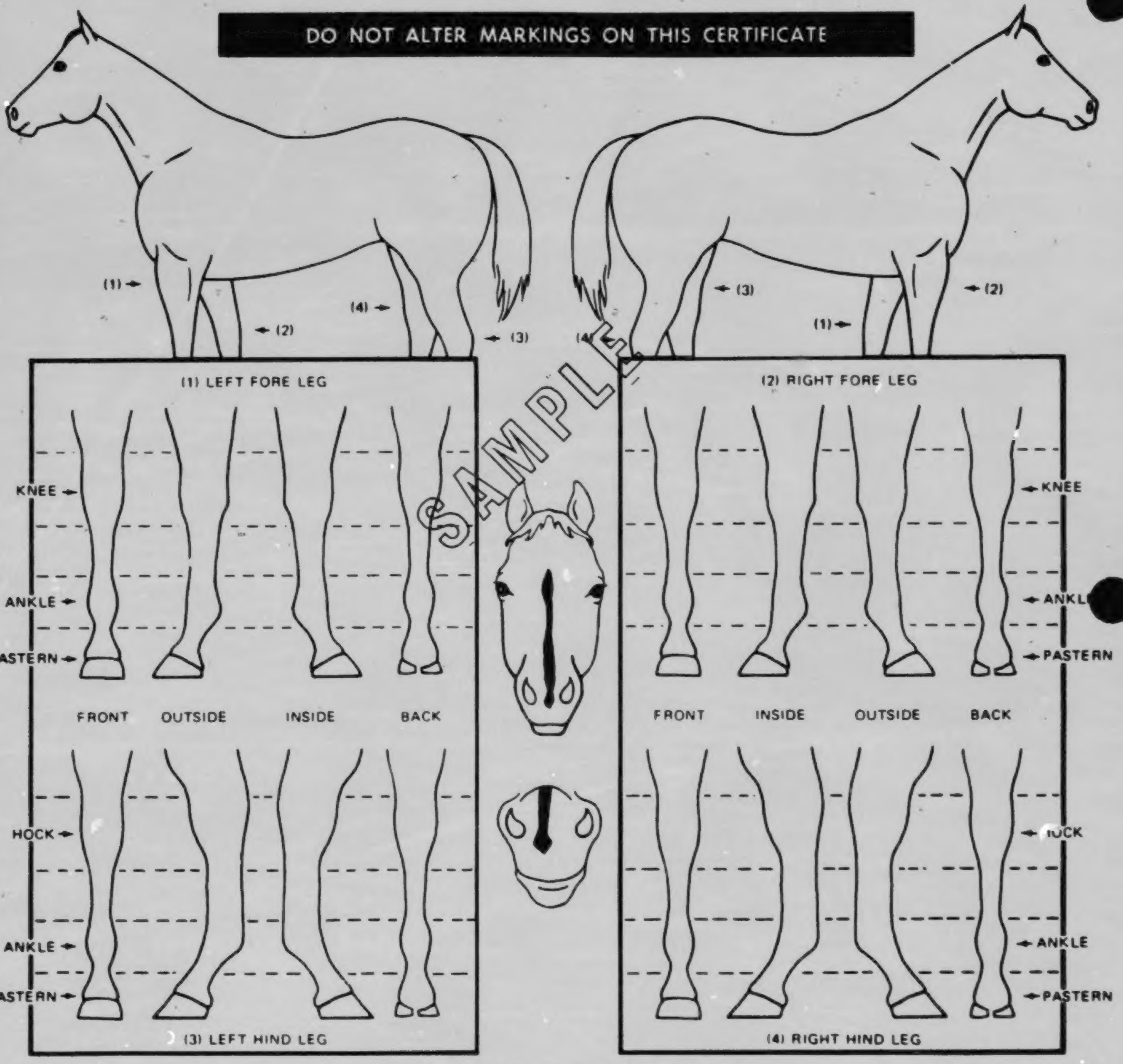
5723 R3

MARKINGS OF HORSE FOR WHICH THIS REGISTRATION CERTIFICATE HAS BEEN ISSUED

DO NOT ALTER MARKINGS ON THIS CERTIFICATE


(1)
(2)
(4)
(3)
(4)
(3)
(1)
(2)
SAMPLE
(1) LEFT FORE LEG
KNEE
ANKLE
PASTERN
FRONT
OUTSIDE
INSIDE
BACK
HOCK
ANKLE
PASTERN
(3) LEFT HIND LEG
(2) RIGHT FORE LEG
KNEE
ANKLE
PASTERN
FRONT
INSIDE
OUTSIDE
BACK
HOCK
ANKLE
PASTERN
(4) RIGHT HIND LEG

CERTIFICATE EXPLANATION

THIS CERTIFICATE OF REGISTRATION IS ISSUED UNDER THE REGULATIONS EFFECTIVE JANUARY 1, 1962, AND WHICH ARE FULLY EXPLAINED IN THE OFFICIAL HANDBOOK

ANY HORSE RECEIVING A REGISTRATION NUMBER AFTER JANUARY 1, 1962, AND RECEIVING THIS CERTIFICATE SHALL BE ELIGIBLE FOR BREEDING AND PERFORMING IN RECOGNIZED EVENTS

AMERICAN QUARTER HORSE ASSOCIATION

AMARILLO, TEXAS 79168

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SUBMIT ALL COPIES WITH CARBONS INTACT
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EQU - 17-B

LABORATORY USE PRIN ACC. NO./DATE SPEC ACC. NO.	U.S. Department of Agriculture Animal and Plant Health Inspection Service Veterinary Services **EQUINE INFECTIOUS ANEMIA LABORATORY TEST REPORT**	1. DATE
	TESTING VETERINARIAN: Submit to laboratory with blood samples. Direct inquiries to reporting laboratory and refer to Accession No. **LABORATORY:** Distribute all copies after testing.	2. PAGE 1 OF 1
		3. NAME & ADDRESS OF OWNER *(Include Zip Code)* DONALD H. HATFIELD PONCA CITY, OK

4 VETERINARIAN'S NAME & ADDRESS *(Include Zip Code)* - TYPE OR PRINT LEGIBLY BELOW & BETWEEN DOTS.

SEX F - Female S - Stallion G - Gelding

TEST RESULTS POS - Positive NEG - Negative

TUBE NO	IDENTIFICATION *(Name, ID No., Brand, etc.)*	AGE	BREED	SEX	COLOR	TEST RESULT	REACTOR ID NO.	REMARKS
1	1 JON ANDREW		QUARTER	S	DUN	N		
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							

SAMPLE

5. HORSES STABLED AT *(Address)*

I hereby certify that this is a correct record of blood samples taken by me.

6. TOTAL NO. BLOOD SAMPLES TAKEN →

COUNTY

TOWN

7. SIGNATURE *(Accredited Veterinarian)*

8. DATE

FOR LABORATORY USE ONLY

DATE RECEIVED	DATE READ	ANTIGEN USED	NAME OF TEST	OTHER *(Specify)*
			COGGINS ☐	

ADDITIONAL DATA

TEST SUMMARY	
No. Negative	
No. Positive	
TOTAL	

NAME OF LABORATORY

BY

DATE

VS FORM 10 - 11
JULY 1973

OFFICE

EQUI•RECORD ©

EQU - 19-B

MONTH/DAY/YEAR ARRIVED ______

HORSE'S NAME/OWNER'S NAME/ I.D. NUMBER ______

MONTH/DAY/YEAR DEPARTED ______

★ EXPENSES ★ OBSERVATIONS ★ TREATMENTS ★

DATE	DESCRIPTION	COST	DATE	DESCRIPTION	COST
	TOTAL			TOTAL	

EQUI•RECORD NO. ______

EQUINE [illegible] © 1978

FORM NO. 2050 Rev. 12/78

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20-B

IDENTIFICATION NUMBER

PASTURE NUMBER

STALL NUMBER

COLLAR NUMBER

HORSE INFORMATION

NAME

REGISTERED NUMBER

BRANDS • TATOO NUMBER

☐ BLACK ☐ BAY ☐ SORREL ☐ CHESTNUT
☐ PALOMINO ☐ DUN ☐ GRAY ☐ BUCKSKIN

MARKINGS

HEIGHT

YEAR BORN

LAST COGGINS TEST DATE

BLOOD TYPE

SEX

PURCHASE PRICE/SELLING PRICE

SIRE

DAM

OWNER INFORMATION

NAME

ADDRESS

CITY

STATE

ZIP CODE

BUSINESS TELEPHONE

HOME TELEPHONE

COMMENTS

PEDIGREE

SIRE'S SIRE

SIRE'S DAM

DAM'S SIRE

DAM'S DAM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JAN																															
FEB																														▨	▨
MAR																															
APR																															▨
MAY																															
JUN																															▨
JUL																															
AUG																															
SEP																															▨
OCT																															
NOV																															▨
DEC																															

← SYMBOLS HERE	DESCRIPTION HERE				

MEDICATION

N	= Novin
IL	= Iron & Liver
P	= Penicillin
L	= Lasix
B	= Phenylbutazone
Q	= Arquel
J	= Injacome 100
ES	= eSE
Z	= Acepromazine
AS	= Anabolic Steriod
AC	= Aureomycin Crumbles
D	= Demerol
TW	= Talwin

VACCINATIONS

R	= E. Rhinopheomonitis
TA	= Tetanus Antitoxin
TT	= Tetanus Toxoid
EW	= E/W Encephomyelitis
VE	= Venezuelan "
S	= Strangles
I	= E. Influenza

Example N/4 = 4 cc's Novin
S/B = Strangles Booster

C	= Colic
BT	= Bowed Tendon
SP	= Splint
BS	= Bog Spavin
BL	= Blister
FI	= Fired
WM	= Wormed
FR	= Farrier
WK	= Walker
R	= Riden
TO	= Turned Out
GW	= Gate Work
TK	= Track Work
DA	= Date Arrived
DD	= Date Departed

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EQUI•RECORD ©

EQU - 21-B

MONTH/DAY/YEAR ARRIVED

HORSE'S NAME/OWNER'S NAME I.D. NUMBER

MONTH/DAY/YEAR DEPARTED

*** EXPENSES * OBSERVATIONS * TREATMENTS ***

DATE	DESCRIPTION	COST	DATE	DESCRIPTION	COST
	TOTAL			TOTAL	

EQUINE [illegible] © 1978

FORM NO. 2050 Rev. 12/78

EQUI•RECORD NO. ______

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IDENTIFICATION NUMBER

PASTURE NUMBER

STALL NUMBER

COLLAR NUMBER

22-B

HORSE INFORMATION

NAME

REGISTERED NUMBER

BRANDS & TATOO NUMBER

☐ BLACK ☐ BAY ☐ SORREL ☐ CHESTNUT
☐ PALOMINO ☐ DUN ☐ GRAY ☐ BUCKSKIN

MARKINGS

HEIGHT

YEAR BORN

LAST COGGINS TEST DATE

BLOOD TYPE

SEX

PURCHASE PRICE/SELLING PRICE

SIRE

DAM

OWNER INFORMATION

NAME

ADDRESS

CITY

STATE

ZIP CODE

BUSINESS TELEPHONE

HOME TELEPHONE

PEDIGREE

SIRE'S SIRE

SIRE'S DAM

DAM'S SIRE

DAM'S DAM

COMMENTS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JAN																															
FEB																														▨	▨
MAR																															
APR																															▨
MAY																															
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JUL																															
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SEP																															▨
OCT																															
NOV																															▨
DEC																															

← SYMBOLS HERE — DESCRIPTION HERE

130

MEDICATION

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- DD = Date Departed

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HORSE HEALTH AND DISEASE PREVENTION
UNIT I

TEST

NAME ________________________________ SCORE ______________

1. Match terms associated with horse health and disease prevention to the correct definitions by placing the correct numbers in the appropriate blanks.

_____a. Inflammation of the nasal and pulmonary mucous membranes

_____b. Act of injecting substance in horse's system which causes resistance to disease

_____c. Infectious disease characterized by inflammation of respiratory mucous membrane

_____d. Infectious disease of the blood caused by a virus

_____e. Inflammation of the brain and spinal cord

_____f. Disorder which is capable of being easily spread from one horse to another

_____g. Painful digestive disturbance

_____h. Record of disorders, medications, immunizations, and other pertinent information about the horse

_____i. Certification by veterinarian that horse is free of disease and injury

_____j. Disorder which is not easily spread; caused by disorders of body functions and processes

_____k. Acute viral infection involving respiratory tract; is very contagious

_____l. Accumulation of abnormally large amounts of fluid between cells in the tissues

1. Case history
2. Immunization
3. Infectious disease
4. Influenza
5. Encephalomyelitis
6. Noninfectious disease
7. Rhinopneumonitis
8. Strangles
9. Edema
10. Equine infectious anemia (swamp fever)
11. Colic
12. Health certificate

2. List six characteristics of the healthy horse.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e. ______________________________

f. ______________________________

3. Select from the list below components essential for maintaining an effective health care program. Place an "X" in the appropriate blanks.

______a. Heating barns during winter months

______b. Controlling parasites

______c. Organizing immunization program

______d. Grooming twice a week

______e. Checking twice a week for injuries or disease

______f. Administering hoof care

______g. Keeping accurate records

______h. Giving 10 cc of penicillin weekly as a preventive measure

______i. Administering diuretic weekly to flush kidneys

______j. Avoiding high risk situations

______k. Being aware of equine diseases and latest research

______l. Maintaining good nutrition

______m. Keeping teeth in good condition

4. Select from the list below and on the next page factors to consider in providing proper stable management. Place an "X" in the appropriate blanks.

______a. Providing proper ventilation

______b. Cleaning stalls weekly

______c. Keeping stalls well lighted

______d. Practicing rigid stable sanitation

______e. Using barbed wire on top of fences _____f. Cleaning stalls daily

_____g. Maintaining safety of animals and caretakers

5. Describe factors to consider in daily observation of the horse.

   a. Wounds--______________________________

   b. Appetite--______________________________

   c. General appearance--______________________________

   d. Symptoms of pain--______________________________

   e. Lameness--______________________________

   f. Fecal droppings--______________________________

6. Name diseases which may be prevented by immunization.

   a. ______________________________

   b. ______________________________

   c. ______________________________

   d. ______________________________

   e. ______________________________

   f. ______________________________

7. Describe treatment of new horse that has just been purchased or brought on farm/ranch.

____

____

____

____

____

8. Complete the chart below on infectious diseases. Write the appropriate information in the blanks provided.

Disease	Primary Characteristics	Prevention	Treatment
Influenza	Fever of 101-105°F (38-40°C); watery nasal discharge	a. ________________	Good nursing care
Strangles	b. ________________	Isolation of new animals; vaccinate all animals with killed vaccine	Antibiotics
c. ________________	Fever of 102-105°F (39-40°C); chest pains, lung congestion, difficulty in breathing	Good management; avoid chills and stress; provide proper ventilation	Antibiotics when cause is bacterial
Rhinopneumonitis	Fever of 102-106°F (39-41°C); coughing; clear nasal discharge; abortion primarily in last third of gestation	Modified live virus vaccine	d. __________
Viral arteritis	Fever of 102-106°F (39-41°C); abortion	e. ________________	Good nursing care
Equine encephalomyelitis (sleeping sickness)	Brain lesions, drowsiness, fever; lower lip drops; difficulty in walking	Vaccination	f. __________
Equine infectious anemia (swamp fever)	Fever of 104-108°F (40-42°C); weakness, jaundice, edema of ventral abdomen	g. ________________	No treatment
h. ________________	Muscular rigidity; prolapse of third eyelid	Tetanus toxoid or antitoxin	Very little; mortality rate high
Anthrax	i. ________________	Use vaccines only in an epidemic area	Antibiotics, antianthrax serum

9. Name means by which infectious diseases are passed from one horse to another.

a. ____________________

b. ____________________

c. ____________________

d. ____________________

10. Complete the chart below on noninfectious diseases by writing the appropriate information in the blanks provided.

Condition	Cause	Primary Characteristics	Prevention	Treatment
Colic	Parasites; overfeeding; moldy feed; twisted intestines	a. ____________	Parasite control; proper feeding methods	Walking; laxtives; analgesics; surgery in some cases
Pulmonary emphysema	Not well defined--perhaps allergic response	Coughing; heave line	Prevent and treat respiratory infections; control stable dust	b. ____________
c. ____________	Damage to recurrent laryngeal nerve	Noise during inspiration	Prevent and treat respiratory infections	Surgery
Azoturia (Monday morning sickness)	d. ____________	Stiff gait; reluctance to move; dark-colored urine	Reduce feed intake when animal is not working	Injections of thiamin, vitamin E, and selenium are frequently used
Laminitis (founder)	Overeating; retained placenta; allowing to drink water while hot	e. ____________	Maintain a sound feeding program; do not keep horses too fat	Acute: obtain immediate veterinary attention. Chronic: perform corrective trimming and shoeing

11. Select from the list below items to be recorded in case history by placing an "X" in the appropriate blanks.

    ______a. Length of gestation

    ______b. Farrier records

    ______c. Ration

    ______d. Past ownerships

    ______e. Birthplace

    ______f. Past illnesses, injuries, and allergies

    ______g. Age, breed, color, and sex

    ______h. Deworming dates and anthelmintics

    ______i. Past medications

    ______j. Sire's race record

    ______k. Show record

    ______l. Use

    ______m. Dental records

    ______n. Immunization history

12. Complete record forms on horse health.

    (NOTE: If activity twelve has not been accomplished prior to the test, ask the instructor when it should be completed.)

HORSE HEALTH AND DISEASE PREVENTION
UNIT I

ANSWERS TO TEST

1. a. 7
   b. 2
   c. 8
   d. 10
   e. 5
   f. 3
   g. 11
   h. 1
   i. 12
   j. 6
   k. 4
   l. 9

2. Any six of the following:
   a. Contentment
   b. Bright eyes and alert ears
   c. Good appetite
   d. Pliable skin and shiny coat
   e. Mucous membranes of eyes and lips pink colored and moist
   f. Normal temperature, pulse, and respiration
   g. No visible wounds
   h. Normal feces and urine

3. b, c, f, g, j, k, l, m

4. a, c, d, f, g

5. Description should include:
   a. Wounds--Closely observe body for cuts, scratches, and/or swelling
   b. Appetite--Horse should be eating about 2.0-2.5 lbs (0.9-1.13 kg) of feed per 100 lbs (45.36 kg) of body weight
   c. General appearance--Alertness in eyes and ears; hair coat shiny; pliable skin
   d. Symptoms of pain--Restlessness, tail-wringing, and biting and/or kicking at abdomen
   e. Lameness--Move horse and observe for soreness in limbs
   f. Fecal droppings--Consistency should be formed fecal balls

6. a. Srangles
   b. Tetanus
   c. Influenza
   d. Encephalomyelitis (eastern and western)
   e. Venezuelan equine encephalomyelitis
   f. Rhinopneumonitis

7. Description should include:
   a. Require negative equine infectious anemia exam (Coggins test)
   b. Check health records
   c. Immunize for diseases not currently covered
   d. Isolate for period of three weeks
   e. Deworm if not recently done

8. a. Vaccination; isolation of new animals
   b. Enlarged lymph nodes; nasal discharge watery at first, then thick mucus; fever of 102-105°F (39-40°C)
   c. Pneumonia
   d. No treatment
   e. No vaccine available
   f. Good nursing care
   g. Use of Coggins test to detect carriers
   h. Tetanus (lockjaw)
   i. High fever; edema about throat, lower neck, and chest; lasts approximately 48-96 hours

9. a. Feed containers
   b. Water containers
   c. Hypodermic needles
   d. Close contact

10 a. Abdominal pain; kicking at belly; rolling; sawhorse posture

  b. Control dust; provide fresh air; give antihistamine drugs

  c. Roaring

  d. Unknown, but condition occurs when animal is exercised heavily, fed a heavy ration, and then rested a few days while still being fed a heavy ration

  e. Lameness; heat in hoof; drop of coffin bone

11. b, c, d, f, g, h, i, l, m, n

12. Evaluated to the satisfaction of the instructor

BASIC FIRST AID
UNIT II

UNIT OBJECTIVE

After completion of this unit, the student should be able to distinguish between signs and symptoms of critical and noncritical illnesses, treat horses in time of emergency until veterinarian arrives, and care for the horse during time of sickness or injury. This knowledge will be evidenced by completion of assignment sheets, job sheets, and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with basic first aid to the correct definitions.
2. Identify parts of circulatory system.
3. Select from a list functions of circulatory system.
4. Identify parts of respiratory system.
5. Name functions of respiratory system.
6. Name vital signs and their normal ranges.
7. Select from a list items needed in first aid kit.
8. Name visual symptoms of abnormal health.
9. Distinguish between critical and noncritical injuries and illnesses.
10. Discuss basic care procedures for a horse during time of illness or injury.
11. Discuss suggestions for basic treatment of wounds.
12. Select from a list basic uses of bandages.
13. Identify intramuscular, intravenous, and subcutaneous injection sites.
14. Explain actions to take in certain medical situations.
15. Demonstrate the ability to:
    a. Check vital signs.
    b. Apply medication and bandage.

c. Fill syringe in preparation for injection.

d. Give intramuscular injections.

e. Give intravenous injections.

f. Give subcutaneous injections.

BASIC FIRST AID
UNIT II

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information, assignment, and job sheets.

   C. Discuss unit and specific objectives.

   D. Discuss information, assignment, and job sheets.

   E. Demonstrate procedures outlined in job sheets, stressing that students observe all safety factors for working with horses.

   F. Emphasize importance of being observant when making daily examinations.

   G. Make visitation to veterinary clinic or hospital.

   H. Request veterinarian to speak to class on aspects of first aid of horses.

   I. Locate horses or ponies so that students can practice giving injections.

   J. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Assignment Sheet #1--Explain Actions to Take in Certain Medical Situations

   D. Answers to assignment sheet

   E. Job sheets

      1. Job Sheet #1--Check Vital Signs

      2. Job Sheet #2--Apply Medication and Bandage

      3. Job Sheet #3--Fill Syringe in Preparation for Injection

      4. Job Sheet #4--Give Intramuscular Injections

5. Job Sheet #5--Give Intravenous Injections

6. Job Sheet #6--Give Subcutaneous Injections

F. Test

G. Answers to test

III. Unit references:

A. *Veterinary Treatments and Medications for Horsemen*. Grapevine, Texas: Equine Research Publications, 1977.

B. Prince, Eleanor F., and Collier, Gaydell M. *Basic Horsemanship: English and Western*. Garden City, New York: Doubleday & Company, 1974.

C. *Veterinary Encyclopedia for Horsemen*. Grapevine, Texas: Equine Research Publications, 1977.

D. *Equus Manazine.* February, 1978. vol. 1, no. 4. Equine Health Publications, 656 Quince Orchard Road, Gaithersburg, Maryland 20760.

BASIC FIRST AID
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Laceration--Torn, ragged wound

B. Abrasion--Wound caused by wearing away of top layer of skin and hair by friction

C. Contusion--Bruise or injury incurred without breaking the skin

D. Antiseptic--Substance that checks the growth or action of microorganisms, especially in or on living tissue

E. Antibiotic--Chemical substance produced by a microorganism that has ability to kill or inhibit growth of other microorganisms

F. Saline solution--Salt-containing solution

G. Hemostatic agent--Material used to apply to wounds to aid in blood clotting

H. Acute--Condition having a short and relatively severe course

I. Chronic--Long term; continued; not acute

J. Immunity--Condition of being able to resist a particular disease

K. Intramuscular--Into a muscle

L. Subcutaneous--Under the skin

M. Intravenous--Into a vein

N. Endocrine secretions--Hormones secreted into the blood or lymph, having an effect on other parts of the body

O. Alimentary canal--Tubular passage that extends from mouth to anus; functions in digestion and absorption of food and elimination of residual waste

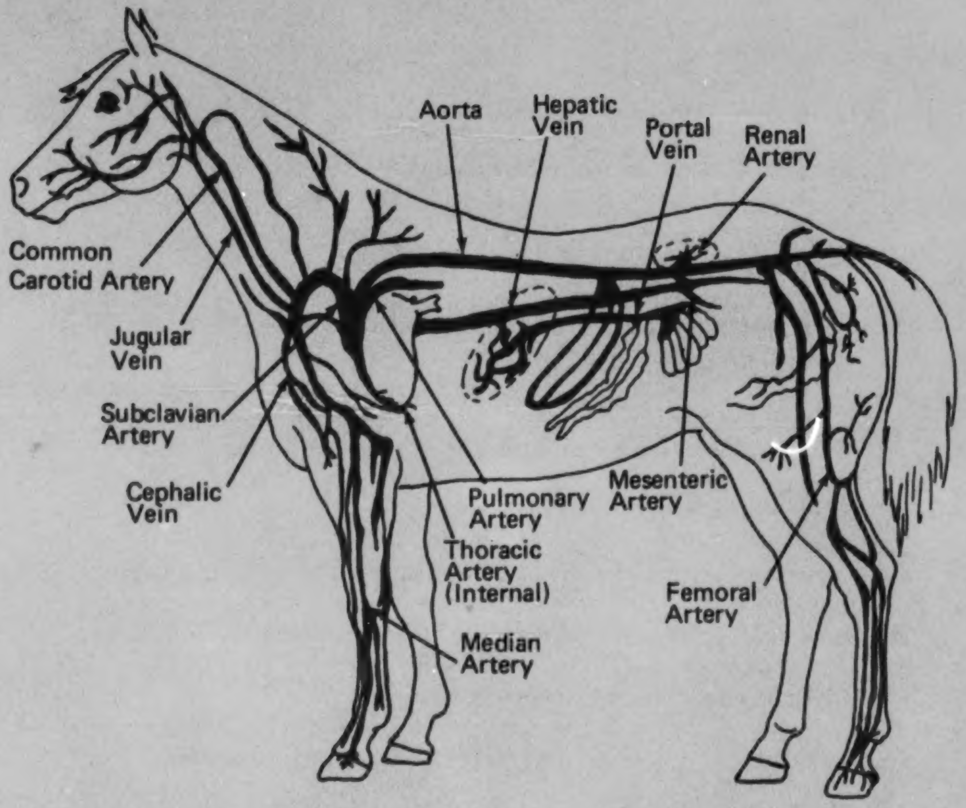
P. Feces--Waste discharged from intestines

Q. Palatable--Agreeable to the taste

R. Adverse--Acting against or in contrary direction

INFORMATION SHEET

II. Parts of circulatory system


Aorta
Hepatic Vein
Portal Vein
Renal Artery
Common Carotid Artery
Jugular Vein
Subclavian Artery
Cephalic Vein
Pulmonary Artery
Mesenteric Artery
Thoracic Artery (Internal)
Femoral Artery
Median Artery

III. Functions of circulatory system

A. Transports nutrients from alimentary tract to tissues

B. Removes waste products of metabolism

C. Transports oxygen to tissues

D. Transports endocrine secretions

E. Equalizes water content

F. Acts as temperature regulator

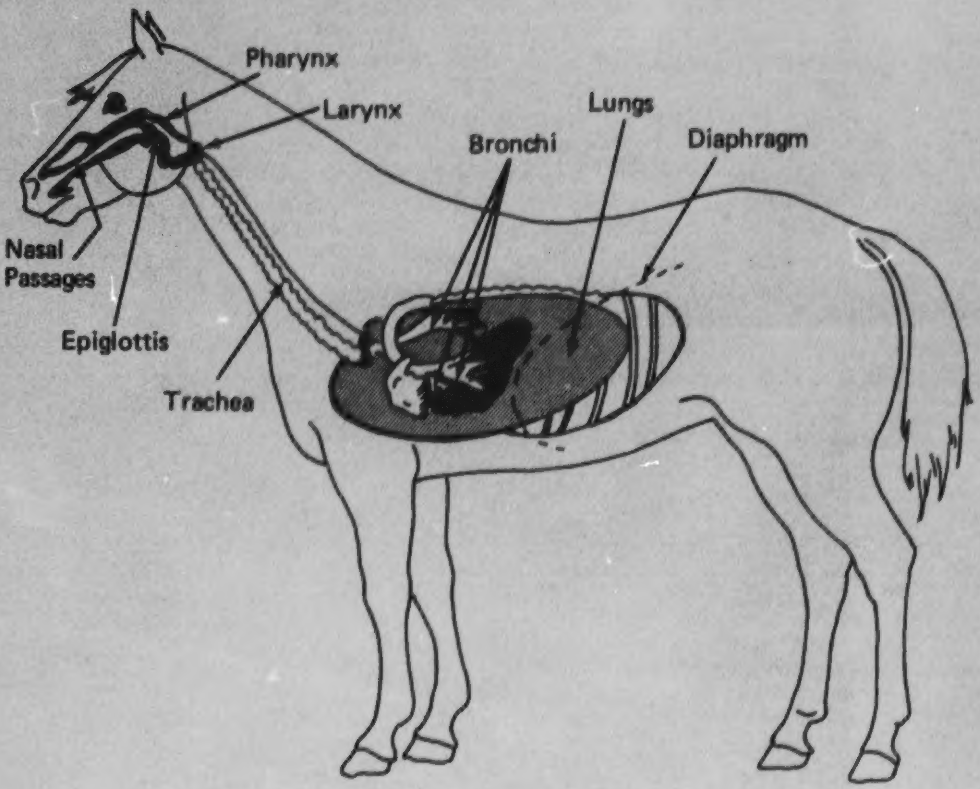
G. Regulates acidity of body

H. Acts as carrier for defense mechanism against microorganisms

I. Aids in immunity to disease

INFORMATION SHEET

IV. Parts of respiratory system


Pharynx
Larynx
Lungs
Bronchi
Diaphragm
Nasal Passages
Epiglottis
Trachea

V. Functions of respiratory system

A. Draws air into lungs

B. Aids circulatory system by providing oxygen and collecting carbon dioxide

C. Aids in temperature regulations, elimination of water, and making sounds

VI. Vital signs and their normal ranges

A. Pulse–Normal, 35-40 beats per minute

(NOTE: Pulse may be higher for younger, smaller, and more nervous animals. Excitement, digestion, and higher environmental temperature may also cause increases.)

INFORMATION SHEET

B. Temperature--Normal, 99.5 - 101.5°F (37.5-38.5°C); average, 100.5°F (38°C)

   (NOTE: Temperature varies according to age, environmental temperature, exercise, and ration. If temperature is above 102°F [39°C], it indicates disease problems and a veterinarian should be consulted.)

C. Respiration--Normal, 12-15 breaths per minute

   (NOTE: Rapid breathing due to recent exercise, excitement, hot weather, or poor ventilation should not be confused with disease.)

VII. Items needed in first aid kit

A. First aid book or chart

B. Antiseptic ointment, scrub, or spray

C. Gentian violet lotion

D. Scarlet oil

E. Sterile gauze compresses

F. Sheet cotton

G. Bandages, including set of leg wraps

H. Hypodermic syringes

   Examples: 2 cc, 10 cc, 20 cc, 35 cc

I. Hypodermic needles

   Examples: 16 gauge, 5/8"-1"; 18 gauge, 1"-1 1/2"; 20 gauge, 1"-2"; 22 gauge, 1 1/2"-2"

J. Syringe for cleaning wounds

K. Rubbing alcohol

L. Twitch

M. Epson salts

N. Insecticides to be applied around wounds

O. Adhesive tape

P. Scissors

INFORMATION SHEET

Q. Antibiotics (note expiration date)

(NOTE: One cc [cubic centimeter] equals one ml [milliliter].)

R. Tetanus antitoxin (note expiration date)

S. Knife

T. Thermometer

U. Linament

V. Bucket and clean sponge

W. Disinfectant

X. Forceps

(NOTE: These are just suggestions; one may want to add or delete certain items from this list.)

VIII. Visual symptoms of abnormal health

A. Abnormal vital signs

B. Mucous membranes discolored

C. Discharge from eyes

D. Dull hair coat

E. Abnormal cough

F. Very loose or very dry feces

G. Abnormal urine

(NOTE: Normal urine should be yellow and slightly cloudy.)

IX. Critical and noncritical injuries and illnesses

A. Critical situations which require immediate attention of veterinarian

1. Profuse bleeding from artery or vein
2. Acute abdominal pain in which animal wants to roll or kick and/or bite at abdomen
3. Acute lameness in which animal is unable to move unless with great pain

INFORMATION SHEET

    4. Abnormal foaling (foal not delivered within 20 minutes after water breaks)

    5. Any situation which might permanently affect the horse in a detrimental manner

       Examples: Diarrhea, difficult urination

  B. Noncritical factors which do not require immediate veterinarian attention but need close supervision

    1. Off feed for 12-hour period

    2. Slight lameness in one foot

    3. Superficial wound

    4. Spot in eye

    5. Swelling in lower limb

    6. Running nose and cough

X. Basic care procedures for horse during time of illness or injury

  A. Allow horse as much rest as possible

  B. Provide clean, roomy, well-bedded stall, unless injury prevents, that is free from draft and dampness

  C. Quarantine horse with contagious disease

  D. Disinfect facilities and equipment after use

  E. Provide palatable feed and fresh water

  F. Keep horse comfortable during extreme hot and cold temperatures

  G. Apply and administer medications according to veterinarian's directions

  H. Check vital signs frequently for adverse change

XI. Suggestions for basic treatment of wounds

  A. Try to control bleeding with pressure bandage or with a hemostatic agent

  B. Clean wound with saline solution or mild antiseptic soap and water; avoid washing wounds frequently

     (CAUTION: Washing wounds during the healing process will cause irritation and reopening of the wound.)

INFORMATION SHEET

C. Avoid applying medicine to a wound to be sutured; try to immobilize and attend promptly

(NOTE: If suturing is in question, consult veterinarian.)

D. Use antibacterial drugs to prevent infection as instructed by veterinarian

E. Bandage wound if needed

F. Immunize against tetanus

(CAUTION: Avoid applying any materials to wounds which would inhibit healing, such as strong antiseptics, salves, astringents, or caustics.)

XII. Basic uses of bandages

A. Stop excessive blood loss

B. Provide support for strains, sprains, and fractures

C. Protect wounds and maintain wound dressing

D. Reduce and control soft tissue swelling

E. Support sound leg when opposite leg is injured and unable to support weight

F. Add protection in hauling

(NOTE: Precautions should be used according to type of wound. Tightness will vary according to purpose and location on horse's body.)

XIII. Injection sites

A. Intramuscular injection

(NOTE: When giving daily intramuscular injections, rotate areas.)

1. Lateral muscles of neck
2. Muscles in lower region of hip

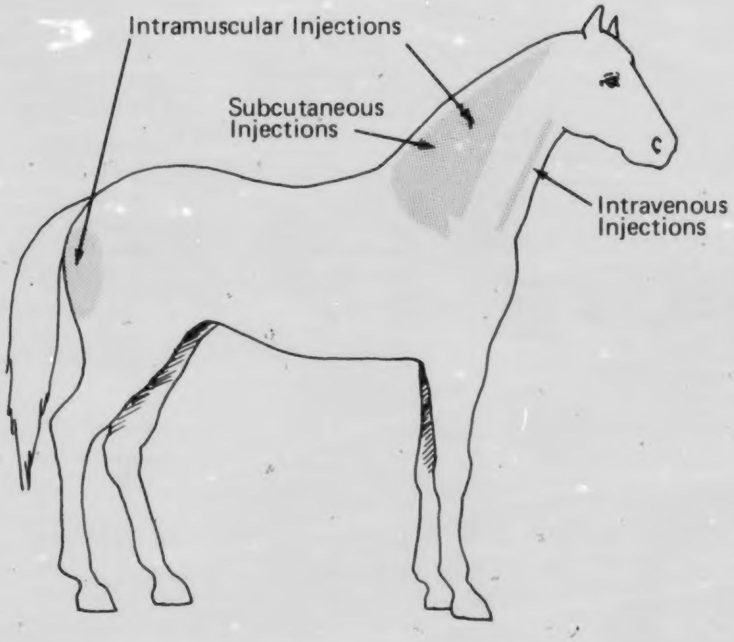
(NOTE: Enter needle from rear of horse while standing to the side.)

B. Intravenous injections--Jugular vein

(CAUTION: Intravenous injections should be administered on the right side [off side] of the neck to avoid irritation of the esophagus.)

INFORMATION SHEET

C. Subcutaneous injections--Beneath the fold of the skin on the neck


Intramuscular Injections
Subcutaneous Injections
Intravenous Injections

BASIC FIRST AID
UNIT II

ASSIGNMENT SHEET #1--EXPLAIN ACTIONS TO TAKE IN CERTAIN MEDICAL SITUATIONS

If you are around horses for any length of time, you may be confronted with any or all of the following situations. Explain what action is to be taken under each condition. If a veterinarian is to be called, explain what to do until the veterinarian arrives.

1. Horse is spurting blood from cannon area on right front leg.

____

____

____

____

2. Horse is biting and/or kicking at stomach, trying to lay down and roll, and exhibiting signs of pain.

____

____

____

____

3. Horse is stiff and reluctant to move.

____

____

____

____

4. Horse has laceration on left forearm which is not deep enough for suturing.

____

____

____

____

ASSIGNMENT SHEET #1

5. Horse is lame in rear foot.

6. Horse did not eat feed from last feeding.

7. Mare is foaling, and water broke twenty minutes ago.

8. Horse has a temperature of 104°F (40°C).

BASIC FIRST AID
UNIT II

ANSWERS TO ASSIGNMENT SHEET #1

1. Apply gauze or cotton over spurting area and cover with reasonably tight ace bandage wrapping well above and below the wound.

2. Keep horse up, outside, and walking slowly while someone else calls the veterinarian. Monitor vital signs and record to inform veterinarian.

3. Allow horse to stand quietly; do not force to move. Check for hot coronary bands or throbbing arteries in the fetlock. Apply pressure to loin muscles to detect cramps. Provide fresh water to drink in small one-gallon quantities. Check vital signs and call veterinarian.

4. Clean thoroughly with mild soap and warm water; dry and apply scarlet oil or other nondrying healing aid.

5. Pick up foot and clean thoroughly using hoof pick and hoof knife. Examine for nails, rocks, or any foreign object. If shod, pull shoe and examine nails for signs of blood. Check for wounds, sore places, and heat at coronary band. Check vital signs. If all the above signs are negative, call veterinarian. If signs are positive, remove foreign object and treat wound accordingly.

6. Check vital signs, examine remainder of feed, and determine amount not eaten. If all normal, remove feed (not water) for 12-hour period and furnish with fresh feed. If significant change in vital signs or horse does not eat within 12 hours, call veterinarian.

7. If no part of foal has been presented at this point, call veterinarian. While waiting for veterinarian, keep mare up and walking to prevent straining until veterinarian arrives.

8. Examine horse for nasal discharge and eye discharge. Check vital signs. Call veterinarian and, while waiting for his/her arrival, provide cooler surroundings for the horse during the summer by spraying with water hose to help drop temperature.

   (CAUTION: Do not spray with water if there is nasal discharge or eye discharge.)

BASIC FIRST AID
UNIT II

JOB SHEET #1--CHECK VITAL SIGNS

I. Equipment and materials

A. Thermometer

B. Lubricant

Example: Petroleum jelly

C. String, about 12 inches

D. Clip

E. Watch with a second hand

II. Procedure for taking temperature

A. Shake thermometer down to a reading below 95°F (35°C)

B. Coat thermometer with a suitable lubricant

C. Raise horse's tail and insert thermometer with a rotating motion until about three-fourths of its length is within the rectum

(CAUTION: TIE THERMOMETER AND CLIP TOGETHER WITH STRING AND ATTACH CLIP TO HORSE'S TAIL WHILE TAKING TEMPERATURE!)

D. Leave thermometer in place for at least three minutes to accurately register horse's temperature

III. Procedure for taking pulse

A. Press fingers against back edge of lower jaw (cheek) and 4" below eye (facial artery)

B. Count pulses for thirty seconds and multiply by two

IV. Procedure for taking respiration

A. Watch nostrils or flanks

B. Observe one rise and one fall to equal one respiration

C. Count for thirty seconds and multiply by two

BASIC FIRST AID
UNIT II

JOB SHEET #2--APPLY MEDICATION AND BANDAGE

I. Equipment and materials

   A. Medication

   B. Primary wrap, self-adhesive

   C. Gauze padding

   D. Cotton padding

   E. Bandage, self-adhesive

   F. Gauze roll

   G. Gauze pad

II. Procedure

(NOTE: Contact veterinarian for methods of restraint while applying medication.)

   A. Observe that injured leg is progressing normally and is ready for routine redressing (Figure 1)

FIGURE 1

JOB SHEET #2

B. Apply medication to gauze padding (Figure 2)

FIGURE 2

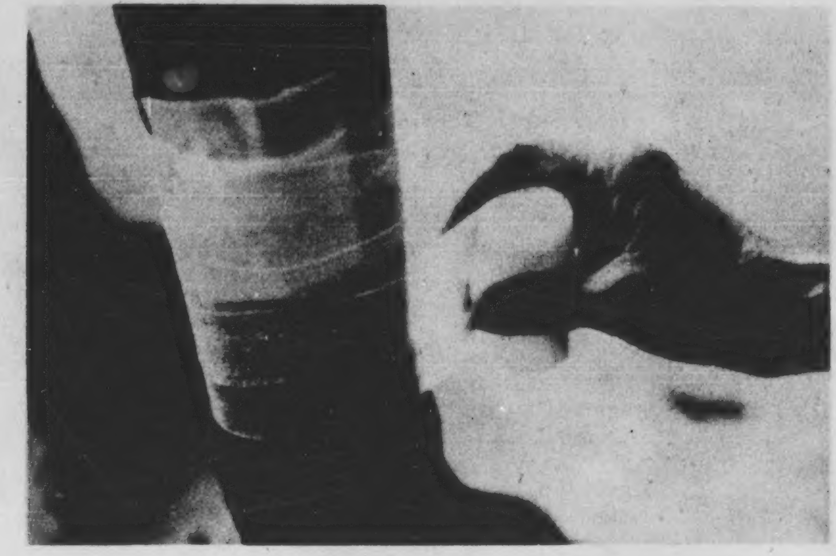
C. Apply medicated covering and primary wrap together (Figure 3)

FIGURE 3

JOB SHEET #2

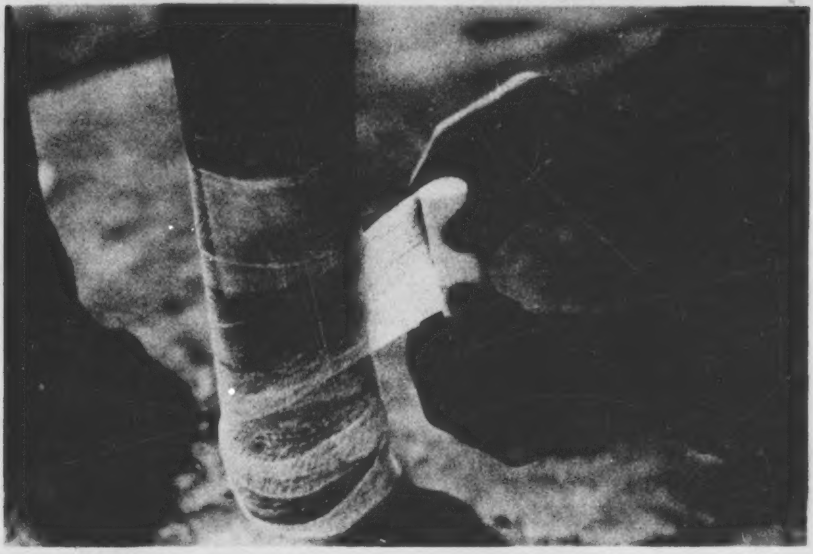
D. Make progressive turns of the primary wrap spiralling downward (Figure 4)

FIGURE 4



E. Make turn back up the leg, well below the injury (Figure 5)

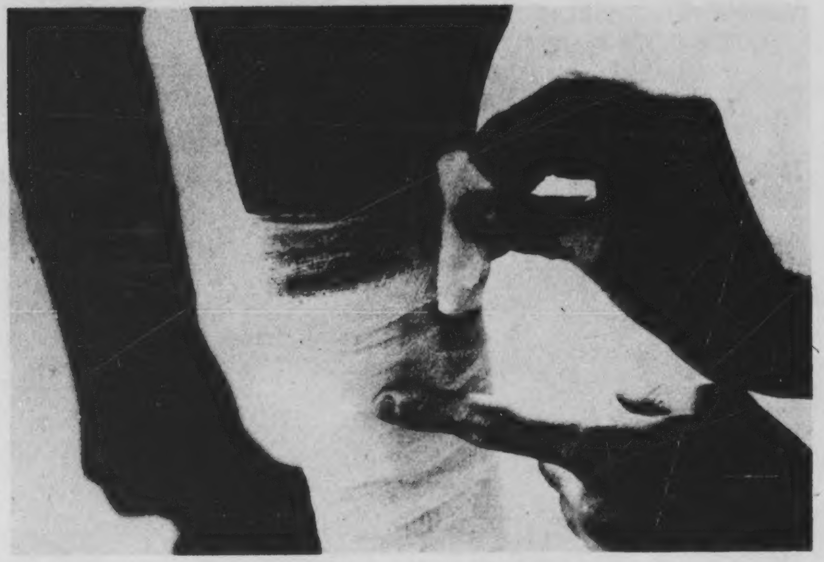
FIGURE 5



JOB SHEET #2

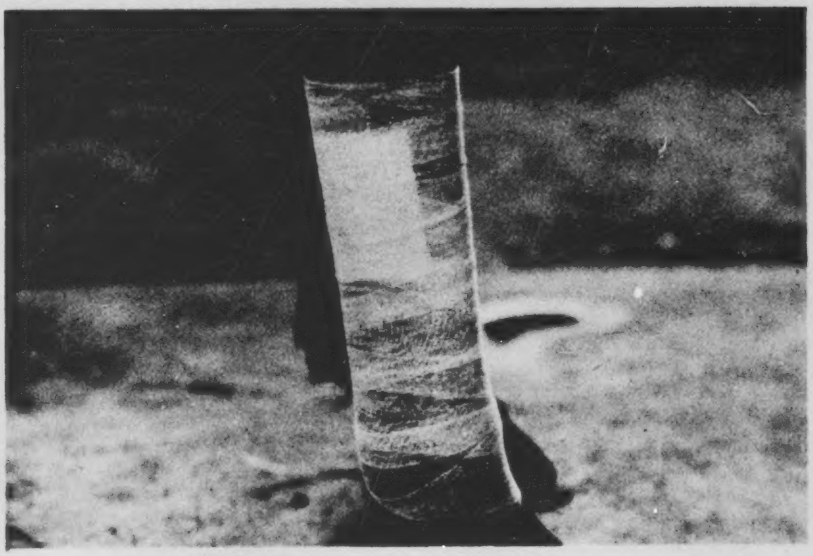
F. Make sure upper limit of primary wrap is well above injury (Figure 6)

FIGURE 6



G. Finish primary wrap (Figure 7)

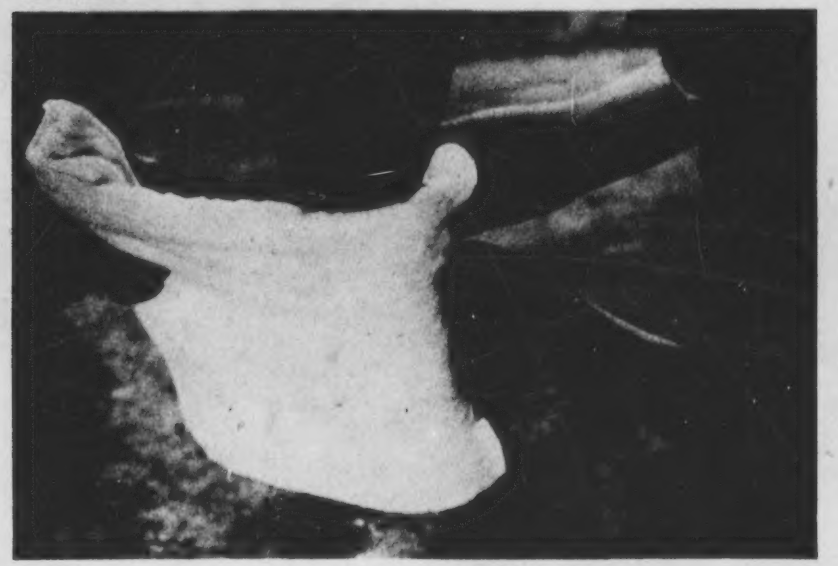
FIGURE 7



JOB SHEET #2

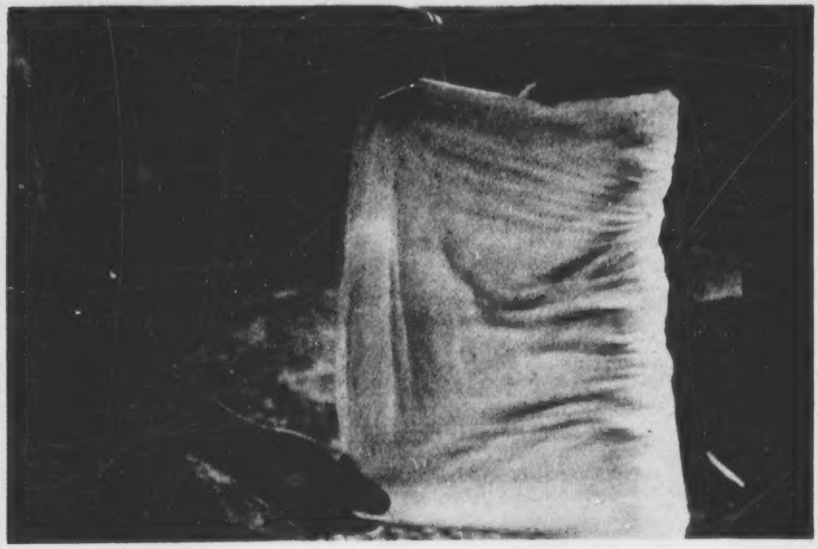
H. Apply cotton padding to relieve tension (Figure 8)

FIGURE 8



I. Smooth end of padding carefully for final wrapping (Figure 9)

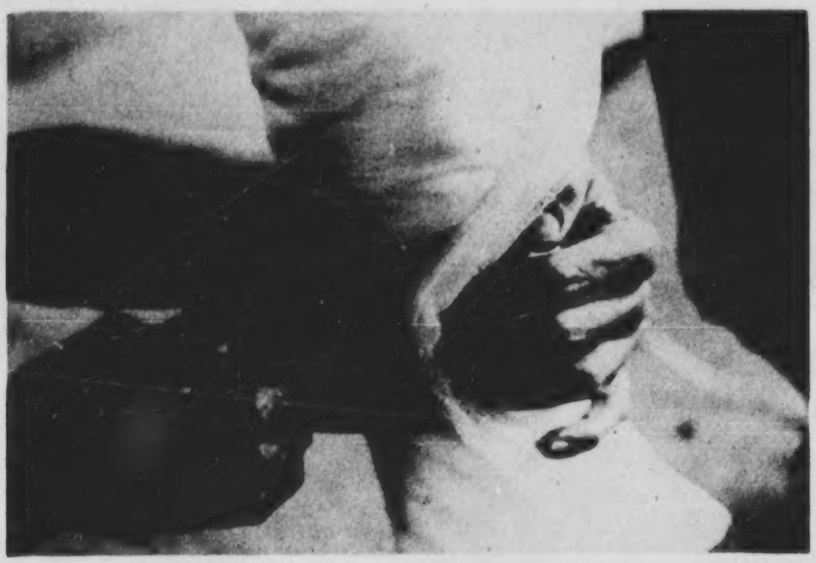
FIGURE 9



JOB SHEET #2

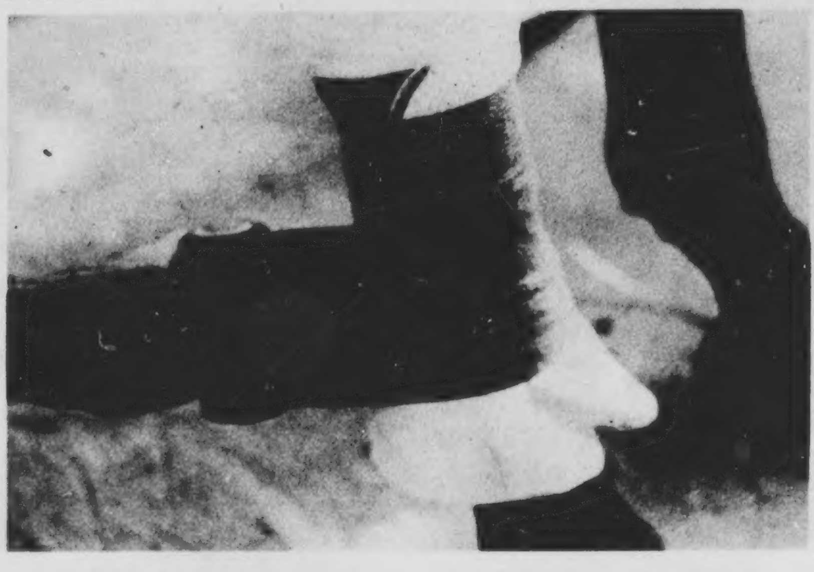
J. Secure end of final wrap with a second turn of padding (Figure 10)

FIGURE 10



K. Continue making successive turns of final wrap, spiralling downward (Figure 11)

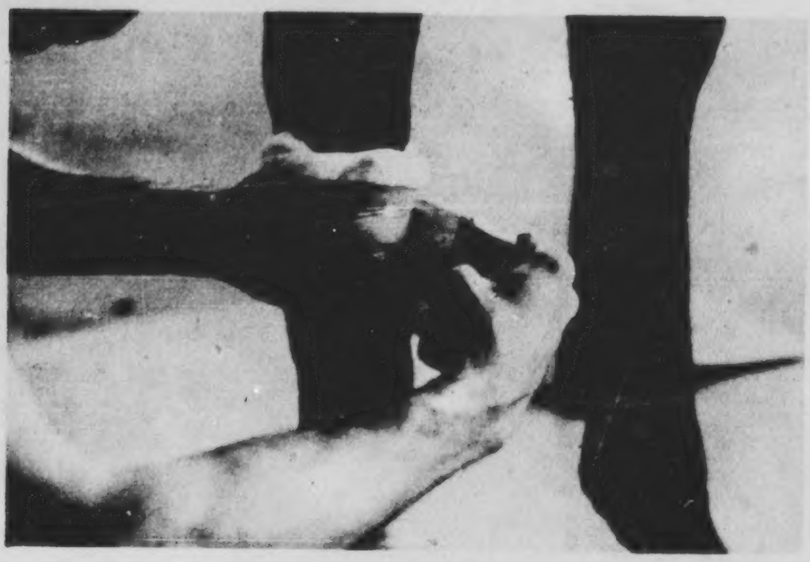
FIGURE 11



JOB SHEET #2

L. Wrap all the way to top and back to center, unrolling final turn for application without tension (Figure 12)

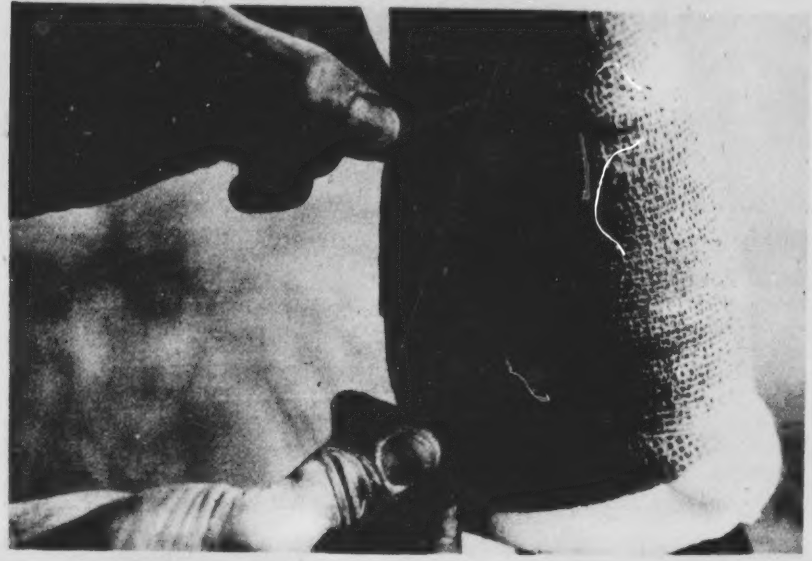
FIGURE 12



M. Press final wrap so that it adheres to itself (Figure 13)

(NOTE: Make sure termination point is on outside of leg.)

FIGURE 13



BASIC FIRST AID
UNIT II

JOB SHEET #3--FILL SYRINGE IN PREPARATION FOR INJECTION

(NOTE: The first and most important step in preparing for an injection is to read directions on the medication. Be sure you understand the directions, route of administration, and medicine's expiration date. Drugs that have exceeded their expiration dates should be discarded.)

I. Equipment and materials

   A. Clean hypodermic syringe and disposable hypodermic needle

      (NOTE: Different sizes may be used, but for this procedure a 10 cc hypodermic syringe and an 18 gauge hypodermic needle are recommended.)

   B. Bottle or vial of drugs

      (NOTE: For practice, an emptied bottle filled with sterile saline solution may be used.)

II. Procedure

   A. Fill the syringe with an amount of air equal to the amount of injectable to be used

   B. Inject the air into the bottle of drug through the rubber seal which has been cleansed with alcohol

   C. Hold the vial upside down or at a steep angle with needle inserted

      (NOTE: Make sure needle is not in air pocket.)

   D. Pull the plunger back until it is a little above the mark for the amount of drug needed

      Example: If 12 cc are needed, withdraw 13

   E. Give the syringe a few gentle taps on the side to dislodge air bubbles

   F. Push the plunger down just enough to expel air and the extra medicine in the syringe; pull the syringe and needle straight out

BASIC FIRST AID
UNIT II

JOB SHEET #4--GIVE INTRAMUSCULAR INJECTIONS

I. Equipment and materials

A. 20 cc syringe and 20 gauge disposable needle (1"-1 1/2" or 2.5-3.8 cm in length)

B. Horse for injection

C. Drug for injection

D. Iodine, antiseptic cleanser, or alcohol

II. Procedure

A. Apply cleanser to area of application

B. Pat skin over area of injection before inserting needle

C. Disconnect needle from syringe

D. Hold needle between thumb and index finger

E. Thump area for injection a few times with the side of the hand, driving the needle in on the final thump (Figures 1 and 2)

FIGURE 1

FIGURE 2

JOB SHEET #4

F. Connect syringe and needle and administer injection (Figure 3)

(CAUTION: Make sure you insert needle from rear of horse while standing to the side.)

(NOTE: Before depressing the plunger of the syringe to give the injection, it should be pulled out very slightly to see if any blood is present around area of penetration.)

FIGURE 3

(CAUTION: Only administer 12 to 15 cc of substance at any one injection site.)

BASIC FIRST AID
UNIT II

JOB SHEET #5--GIVE INTRAVENOUS INJECTIONS

(CAUTION: INTRAVENOUS INJECTIONS SHOULD ONLY BE ADMINISTERED UPON ADVICE FROM A VETERINARIAN; GIVEN INCORRECTLY, THEY CAN EASILY BE FATAL.)

I. Equipment and materials

   A. 18 gauge needle (1 1/2" - 2" or 3.8 - 5 cm in length)

   B. Horse

   C. Iodine, antiseptic cleanser, or alcohol

II. Procedure

   A. Block the jugular vein by pressing the thumb against the vein between the intended injection site and the heart

   (NOTE: This is usually done in the upper two-thirds of the neck.)

   B. Apply cleanser

   C. Hold the needle firmly and push quickly through the skin into the distended vein, threading it through the middle of the vein until blood is flowing freely through the needle (Figure 1)

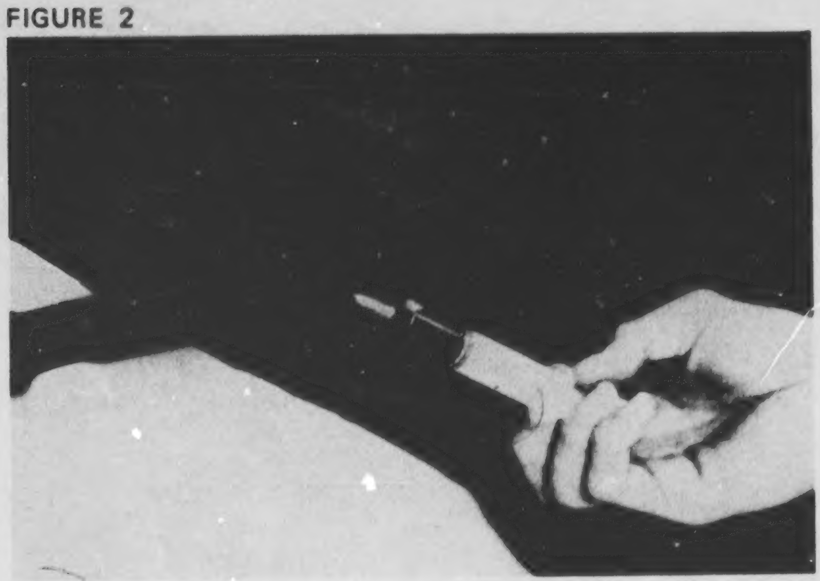
   (NOTE: The needle should be slanted towards the front or rear of the horse.)

FIGURE 1

JOB SHEET #5

D. Attach syringe and pull back on plunger to make blood flow into syringe so as to be sure needle is in right location (Figure 2)

FIGURE 2



E. Inject substance if blood is present

BASIC FIRST AID
UNIT II

JOB SHEET #6--GIVE SUBCUTANEOUS INJECTIONS

I. Equipment and materials

   A. Clean hypodermic syringe and 18 gauge needle (16-25 mm or 5/8"-1" in length)

   B. Iodine, antiseptic cleaner, or alcohol

   C. Horse

II. Procedure

   A. Locate area where the skin is loose, such as the middle of the side of the neck

   B. Apply cleanser

   C. Lift the skin and insert needle at a direct angle into one end of the fold

   D. Back up needle slightly and hold under the skin with the thumb and fingers while the injection is made

   (NOTE: Before injecting medication, pull back on plunger to make sure the needle is not in a blood vessel. Completed injection leaves a small lump beneath the skin.)

BASIC FIRST AID
UNIT II

TEST

NAME ______________________________ SCORE ______________

1. Match terms associated with basic first aid to the correct definitions by placing the appropriate numbers in the blanks provided.

______a. Bruise or injury incurred without breaking the skin

______b. Long term; continued; not acute

______c. Under the skin

______d. Wound caused by wearing away of top layer of skin and hair by friction

______e. Material used to apply to wounds to aid in blood clotting

______f. Into a muscle

______g. Condition having a short and relatively severe course

______h. Chemical substance produced by a microorganism that has ability to kill or inhibit growth of other microorganisms

______i. Torn, ragged wound

______j. Into a vein

______k. Agreeable to the taste

______l. Hormones secreted into the blood or lymph, having an effect on other parts of the body

______m. Waste discharged from intestines

______n. Salt-containing solution

______o. Acting against or in a contrary direction

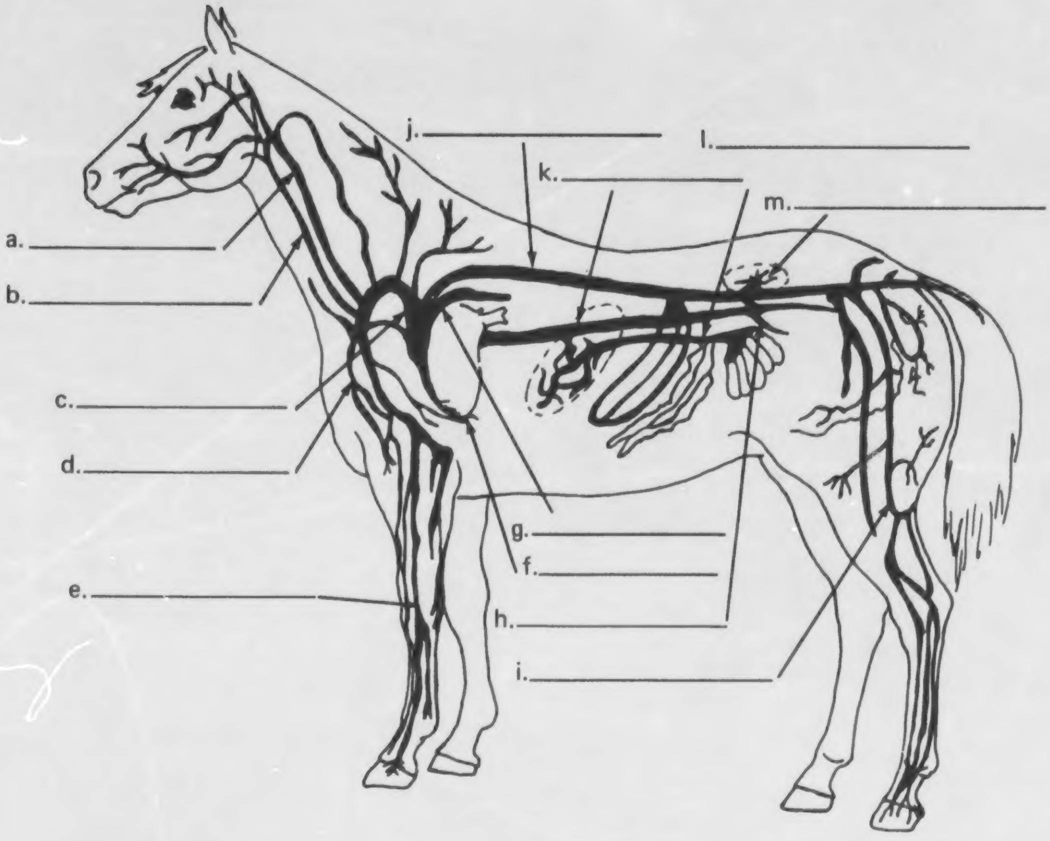
______p. Substance that checks the growth or action of microorganisms, especially in or on living tissue

1. Intramuscular
2. Intravenous
3. Subcutaneous
4. Laceration
5. Abrasion
6. Contusion
7. Acute
8. Antibiotic
9. Chronic
10. Hemostatic agent
11. Feces
12. Alimentary canal
13. Endocrine secretions
14. Immunity
15. Antiseptic
16. Palatable
17. Adverse
18. Saline solution

______q. Condition of being able to resist a particular disease

______r. Tubular passage that extends from mouth to anus; functions in digestion and absorption of food and elimination of residual waste

2. Identify parts of circulatory system shown in the drawing below. Write the appropriate names in the blanks provided.



3. Select from the list below functions of the circulatory system by placing an "X" in the appropriate blanks.

   ______a. Removes waste products of metabolism

   ______b. Produces fluid to lubricate joints

   ______c. Produces hormones for growth

   ______d. Transports nutrients from alimentary tract to tissues

   ______e. Transports endocrine secretions

   ______f. Transports oxygen to tissues

   ______g. Manufactures enzymes

   ______h. Acts as carrier for defense mechanism against microorganisms

   ______i. Acts as temperature regulator

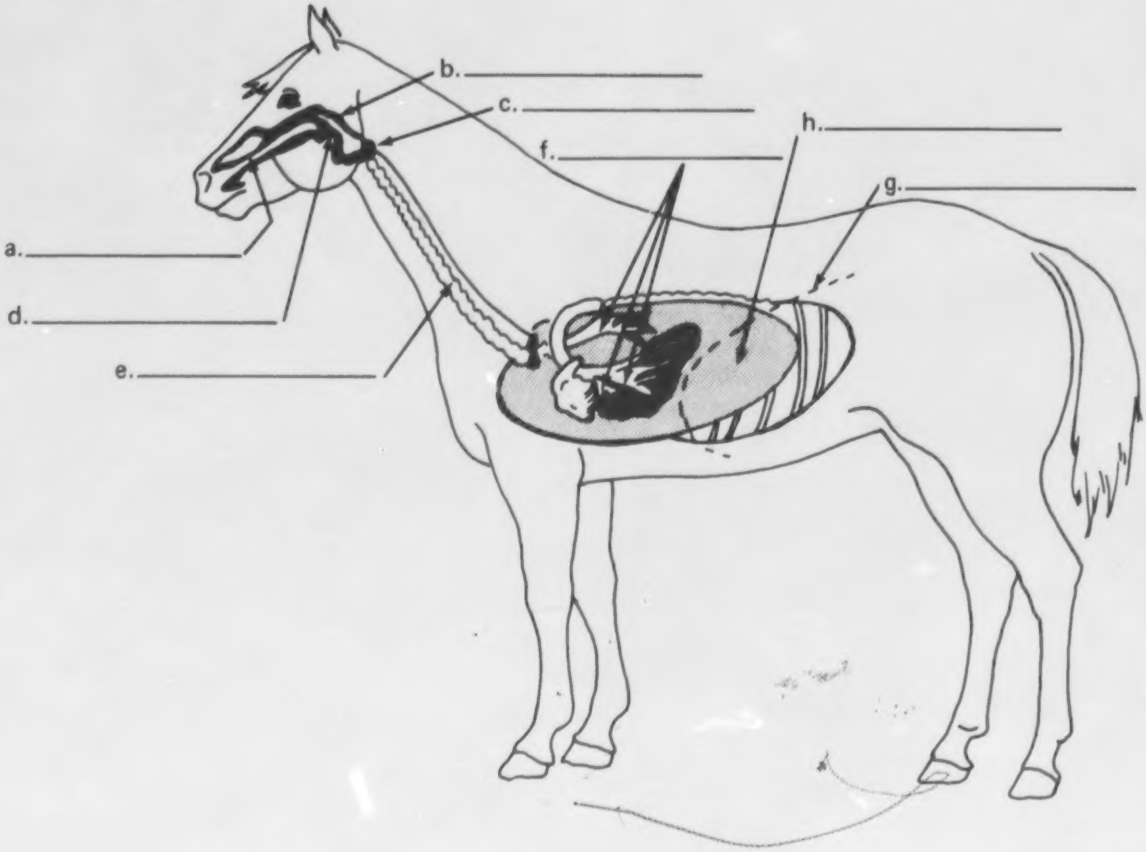
   ______j. Stimulates appetite

   ______k. Equalizes water content

   ______l. Aids in immunity to disease

   ______m. Regulates acidity of body

4. Identify parts of respiratory system in the drawing below by placing the correct names in the blanks provided.



5. Name functions of respiratory system.

a. ______________________________

b. ______________________________

c. ______________________________

6. Name vital signs and their normal ranges.

a. ______________________________

b. ______________________________

c. ______________________________

7. Select from the list below items needed in first aid kit by placing an "X" in the appropriate blanks.

______a. Stomach tube for worming

______b. Bandages, including set of leg wraps

______c. Thermometer

______d. Casting materials

______e. Rubbing alcohol

______f. Corrective shoes

______g. Adhesive tape

______h. Scissors

______i. Needles for suturing

______j. Nerve blocks

______k. Disinfectant

______l. Hypodermic needles

______m. Scarlet oil

______n. First aid book or chart

8. Name visual symptoms of abnormal health.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e. ______________________________

f. ______________________________

g. ______________________________

9. Distinguish between critical (C) and noncritical (NC) injuries and illnesses by placing the correct letters in the blanks provided.

_____a. Spot in eye

_____b. Running nose and cough

_____c. Acute abdominal pain in which animal wants to roll or kick and/or bite at abdomen

_____d. Profuse bleeding from artery or vein

_____e. Acute lameness in which animal is unable to move unless with great pain

_____f. Swelling in lower limb

_____g. Off feed for 12-hour period

_____h. Abnormal foaling (foal not delivered within 20 minutes after water breaks)

_____i. Slight lameness in one foot

_____j. Superficial wound

_____k. Any situation which might permanently affect the horse in a detrimental manner

10. Discuss basic care procedures for horse during time of illness or injury.

____

____

____

____

____

____

____

____

____

____

11. Discuss suggestions for basic treatment of wounds.

12. Select from the list below basic uses of bandages by placing an "X" in the appropriate blanks.

______a. Cover puncture wound on upper portion of leg

______b. Reduce and control soft tissue swelling

______c. Cover superficial wounds

______d. Add protection in hauling

______e. Provide support for strains, sprains, and fractures

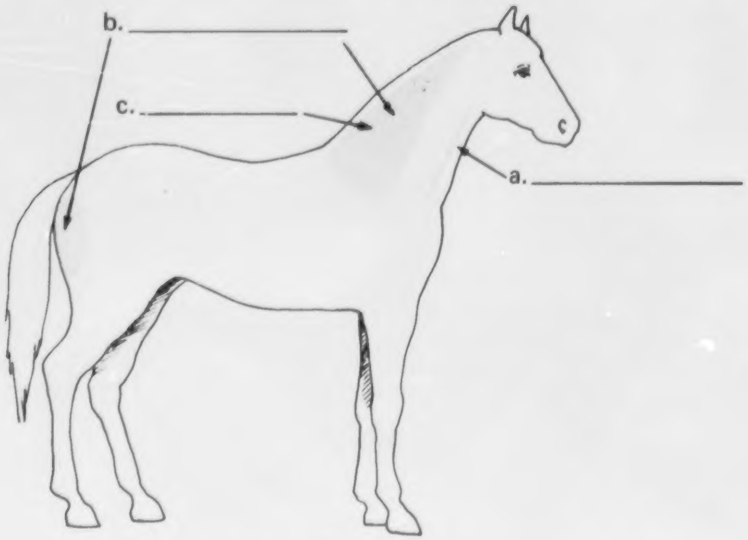
______f. Stop excessive blood loss

______g. Prevent founder

______h. Protect wounds and maintain wound dressing

______i. Support sound leg when opposite leg is injured and unable to support weight

13. Identify intramuscular, intravenous, and subcutaneous injection sites by writing the correct names in the blanks provided.



14. Explain actions to take in certain medical situations.

15. Demonstrate the ability to:

    a. Check vital signs.

    b. Apply medication and bandages.

    c. Fill syringe in preparation for injection.

    d. Give intramuscular injection.

    e. Give intravenous injection.

    f. Give subcutaneous injection.

    (NOTE: If activities 14-15 have not been accomplished prior to the test, ask the instructor when they should be completed.)

BASIC FIRST AID
UNIT II

ANSWERS TO TEST

1. a. 6
   b. 9
   c. 3
   d. 5
   e. 10
   f. 1
   g. 7
   h. 8
   i. 4
   j. 2
   k. 16
   l. 13
   m. 11
   n. 18
   o. 17
   p. 15
   q. 14
   r. 12

2. a. Common corotid artery
   b. Jugular vein
   c. Subclavian artery
   d. Cephalic vein
   e. Median artery
   f. Thoracic artery (internal)
   g. Pulmonary artery
   h. Mesenteric artery
   i. Femoral artery
   j. Aorta
   k. Hepatic vein
   l. Portal vein
   m. Renal artery

3. a, d, e, f, h, i, k, l, m

4. a. Nasal passages
   b. Pharynx
   c. Larynx
   d. Epiglottis

e. Trachea

f. Bronchi

g. Diaphragm

h. Lungs

5. a. Draws air into lungs

b. Aids circulatory system by providing oxygen and collecting carbon dioxide

c. Aids in temperature regulation, elimination of water, and making sounds

6. a. Pulse--Normal, 35-40 beats per minute

b. Temperature--Normal, 99.5-101.5°F (37.5-38.5°C); average, 100.5°F (38°C)

c. Respiration--Normal, 12-15 breaths per minute

7. b, c, e, g, h, k, l, m, n

8. a. Abnormal vital signs

b. Mucous membranes discolored

c. Discharge from eyes

d. Dull hair coat

e. Abnormal cough

f. Very loose or very dry feces

g. Abnormal urine

9. a. NC

b. NC

c. C

d. C

e. C

f. NC

g. NC

h. C

i. NC

- j. NC
- k. C

10. Discussion should include:
    - a. Allow horse as much rest as possible
    - b. Provide clean, roomy, well-bedded stall, unless injury prevents, that is free from draft and dampness
    - c. Quarantine horse with contagious disease
    - d. Disinfect facilities and equipment after use
    - e. Provide palatable feed and fresh water
    - f. Keep horse comfortable during extreme hot and cold temperatures
    - g. Apply and administer medications according to veterinarian's directions
    - h. Check vital signs frequently for adverse change
11. Discussion should include:
    - a. Try to control bleeding with pressure bandage or with hemostatic agent
    - b. Clean wound with saline solution or mild antiseptic soap and water; avoid washing wounds frequently
    - c. Avoid applying medicine to a wound to be sutured; try to immobilize and attend promptly
    - d. Use antibacterial drugs to prevent infection as instructed by veterinarian
    - e. Bandage wound if needed
    - f. Immunize against tetanus
12. b, d, e, f, h, i
13. a. Intravenous injections
    - b. Intramuscular injections
    - c. Subcutaneous injections
14. Evaluated to the satisfaction of instructor
15. Performance skills evaluated to the satisfaction of the instructor

PARASITES
UNIT III

UNIT OBJECTIVE

After completion of this unit, the participant should be able to describe parasites and their effects, list methods of control and prevention, and discuss safety precautions when using insecticides. This knowledge will be evidenced by completion of the assignment sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the participant should be able to:

1. Match terms associated with parasites and parasite control to their correct definitions.
2. Select from a list general symptoms of parasitic infection.
3. Classify parasites as internal or external.
4. Match internal parasites to their correct descriptions.
5. Identify external parasites.
6. Label the steps in life cycles of internal parasites.
7. List guidelines for the uses of anthelmintics.
8. Distinguish between anthelmintics effective against internal parasites and insecticides effective against external parasites.
9. Complete a chart on common external parasites.
10. List management practices used in prevention of parasitism.
11. Discuss precautions necessary when using insecticides for external parasites.
12. Evaluate factors that affect susceptibility of horses to parasites.

PARASITES
UNIT III

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information and assignment sheets.

   C. Make transparencies.

   D. Discuss unit and specific objectives.

   E. Discuss information and assignment sheets.

   F. Collect parasites in sample bottles for student observation.

   (NOTE: If you have difficulty doing this, contact veterinarian for assistance.)

   G. Emphasize a regular deworming program.

   H. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Transparency masters

      1. TM 1--External Parasites
      2. TM 2--Life Cycle: Ascarids
      3. TM 3--Life Cycle: Bots
      4. TM 4--Life Cycle: Habronema
      5. TM 5--Life Cycle: Pinworms
      6. TM 6--Life Cycle: Strongyles
      7. TM 7--Compounds Effective Against Internal Parasites
      8. TM 8--Deworming Schedules
      9. TM 9--Insecticides Effective Against Flies

D. Assignment sheets

  1. Assignment Sheet #1--Identify Internal Parasites

  2. Assignment Sheet #2--Evaluate Factors that Affect Susceptibility of Horses to Parasites

E. Answers to assignment sheets

F. Test

G. Answers to test

III. Unit references:

A. *Veterinary Treatments and Medications for Horsemen.* Grapevine, Texas: Equine Research Publications, 1977.

B. Hanauer, Elsie. *Disorders of the Horse.* New York: A. S. Barnes and Company, 1973.

C. Ensminger, M. E. *Horses and Horsemanship.* 5th ed. Danville, Ill.: Interstate Printers and Publishers, Inc., 1969.

D. *Horse Science: 4-H Horse Program.* Lexington: University of Kentucky, Cooperative Extension Service, 1965.

PARASITES
UNIT III

INFORMATION SHEET

I. Terms and definitions

   A. Parasite--Organism that lives in or on another animal and obtains its food from its host

   B. Internal parasite--Organism that lives part of its life cycle inside the animal's body

   C. External parasite--Organism that lives on or under the skin of an animal

   D. Ascarid--Common internal parasite

   E. Bots--Larvae of botfly which live in the horse's stomach

   F. Pinworm--Internal parasite that attaches eggs to anus and causes intense itching, resulting in tail-rubbing

   G. Strongyles--Most common and serious kind of internal parasite

   H. Life cycle--Stages of development

   I. Larvae--Stage of development in parasite life cycle after emerged from egg

   J. Pupa--Stage of development in parasite life cycle between larval and adult stages

   K. Anthelmintics--Chemical materials used for deworming

   L. Vermifuge--Another term for anthelmintic

II. General symptoms of parasitic infection

   A. Weak

   B. Unhealthy appearance

   C. Tucked up flanks

   D. Potbelly

   E. Rough coat

   F. Paleness of membranes around eyes and mouth

INFORMATION SHEET

G. Frequent colic and diarrhea in some cases

H. Stunted growth and development in young animals

III. Classification of parasites

A. Internal

1. Bots
2. Strongyles
3. Ascarids
4. Pinworms
5. Strongyloides
6. Tapeworms
7. Habronema

B. External

1. Flies
2. Lice
3. Mites
4. Ticks
5. Mosquitoes

IV. Description of internal parasites

A. Bots--Larvae of botfly; eggs deposited on horse by fly and migrate to internal parts of horse's body

B. Strongyles--Bloodworms that live in the cecum and colon and range in size from scarcely visible to two inches in length, depending on species

C. Ascarids--Intestinal round worms about the size of a pencil in diameter and 5" to 22" in length at maturity

D. Pinworms--Rectal worms that feed on vegetative matter; eggs laid by female on the skin surrounding anus cause intense itching and result in tail-rubbing and loss of hair

INFORMATION SHEET

E. Strongyloides--Intestinal threadworms that affect foals up to six months of age

F. Tapeworms--Small worms that tend to form clusters at valve region of cecum; rarely cause problems unless present in exaggerated numbers

G. Habronema--Stomach worms that are responsible for inflammation in the stomach and/or for a condition of external sores referred to as "summer sores"

V. External parasites (Transparency 1)

A. Horn fly

B. Horse fly

C. Barn fly

D. Screwworm fly

E. Tick

F. Lice

G. Mite

H. Mosquito

VI. Life cycles of internal parasites (Assignment Sheet #1)

A. Ascarids (Transparency 2)

1. Adult parasite in small intestine where eggs are deposited

2. Eggs passed in feces

(NOTE: Eggs develop embryos and become infective.)

3. Horse swallows embryonated eggs

4. Embryos travel via blood stream through vital parts of body and end up maturing in small intestine

B. Bots (Transparency 3)

1. Eggs attached to hairs by adult flies

2. Eggs hatch and enter mouth

3. Eggs molt and grow in mouth

INFORMATION SHEET

4. Larvae pass to stomach and intestines; attach and feed for several months

5. Larvae passed with feces; pupae form in ground

6. Adult fly emerges from pupa

C. Habronema (Transparency 4)

1. Mature worms lay eggs in stomach

2. Eggs passed in feces

3. House fly maggots swallow the worm eggs

   (NOTE: The young stomach worms develop in the maggot and pupa of the fly.)

4. Horse swallows infective flies in feed and water

D. Pinworm (Transparency 5)

1. Eggs passed in feces

2. Eggs develop in a few days

3. Horse swallows infective eggs

4. Worms mature in colon; when passed with feces worm anchors at anal opening

E. Strongyles (Transparency 6)

1. Adult life, lives in large intestine, produces eggs

2. Eggs passed in feces

   (NOTE: The eggs hatch, liberating larvae which migrate to the vegetation.)

3. Horse swallows larvae while grazing

4. Larvae travel up vessels of colon to main artery; burrow out under selosa to return to colon

   (NOTE: This is where they do their greatest damage as well as suck blood.)

INFORMATION SHEET

VII. Guidelines for uses of anthelmintics

A. Deworm all animals on premises at same time

B. Deworm and quarantine all new additions to herd

(NOTE: Delay deworming for two weeks if not sure of last worming date.)

C. Deworm at frequent intervals (8 weeks optimum)

D. Alternate anthelmintics to avoid build up of resistant worm population

E. Calculate dose by body weight

F. Administer by route most beneficial

1. Stomach tube--Must be done by veterinarian

(NOTE: Stomach tube worming should be done four times a year if possible, with the other two methods administered in between.)

2. Dose syringe--Place substance on back of tongue

3. Feed additive--Sprinkle on feed

G. Take precautions in deworming foals, pregnant mares, and heavily parasitized or very poor animals

H. Deworm broodmares 60 days before foaling

(CAUTION: Use only approved anthelmintics. Consult veterinarian.)

I. Consult veterinarian concerning fecal examinations and abnormalities

VIII. Anthelmintics and insecticides

A. Anthelmintics effective against internal parasites (Transparencies 7 and 8)

1. Cambendazole
2. Carbon disulfide
3. Dichlorvous
4. Mebendazole
5. Phenothiazine
6. Piperazine
7. Pyrantel

INFORMATION SHEET

8. Thiabendazole
9. Trichlorfon

(NOTE: Consult veterinarian concerning alternation and use of anthelmintics.)

B. Insecticides effective against external parasites (Transparency 9)

(CAUTION: Before using any insecticide, be sure to read the label carefully.)

1. Carbaryl
2. Ciodrin
3. Coumaphos
4. Dioxathion
5. Dichlorvos
6. Malathion
7. Methoxychlor
8. Ronnel
9. Toxaphene
10. Pyrethrins
11. Rotenone
12. Lindane

INFORMATION SHEET

IX. Common external parasites

External Parasite	Pathology	Breeding Areas	Methods of Control
Stable fly Horse fly Deer fly Horn fly Mosquitoes	Bite Bite Bite Bite Bite	Moist, decaying matter Standing water	Insecticide sprays, fly predators
Face fly	Irritates, carries pinkeye	Fresh manure	Insecticide smears/treated halters
House fly	Nuisance	Horse manure	Sprays, baits
Screwworm	Maggots destroy live flesh	Wounds	Sprays, smears
Botfly	Non-biting internal parasite	Eggs laid on legs, pupate in manure	Oral anthelmintics
Lice	Suck blood, feed on skin debris	Eggs attached to hair	Dipping, sprays, dusts
Ticks	Irritation, biting, spread piroplasmosis	Eggs laid in protected places	Dips, sprays, dusts, powders
Mites	Mange	On animal	Dips, sprays

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INFORMATION SHEET

X. Management practices used in the prevention of parasitism

- A. Feed hay and grain in trough and/or manger, not on the ground
- B. Supply fresh, clean water
- C. Clean manure daily from stalls and small paddocks
- D. Store manure in a tightly constructed pit for at least a two-week interval prior to spreading

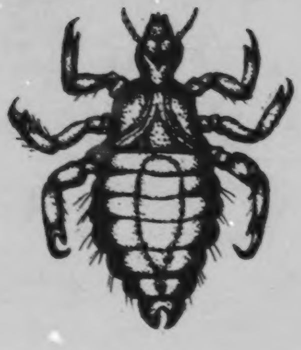
  (NOTE: Spread on crop land and/or pasture not currently being used for horses.)
- E. Mow and rake pastures frequently
- F. Rotate pasture, alternately graze cattle and horses, and let pasture rest three months of year
- G. Treat infected animals prior to turning out to a clean area
- H. Deworm at a minimum of three-month intervals
- I. Treat with effective insecticide during late spring, summer, and early fall
- J. Provide good sanitary measures and a high level of nutrition

XI. Precautions necessary when using insecticides for external parasites

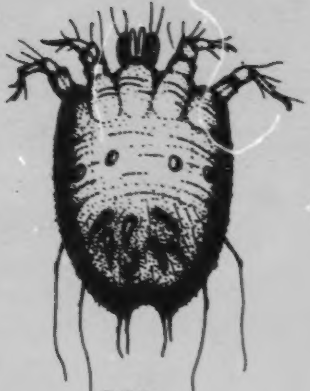
- A. Use only insecticides approved and recommended for use on horses
- B. Avoid contamination of feed and water supplies
- C. Replenish baits weekly

  (CAUTION: Place baits where children and animals cannot get to them.)
- D. Follow label directions carefully
- E. Know toxicity signs of insecticide poisoning
- F. Store out of way and in a safe place

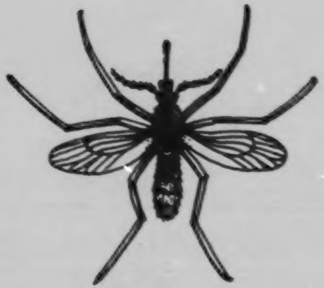
External Parasites



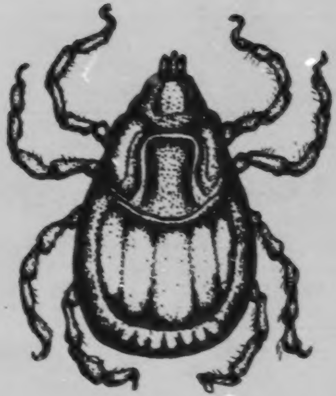
Lice



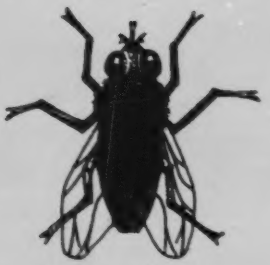
Mite



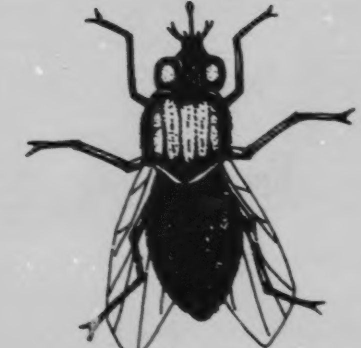
Mosquito



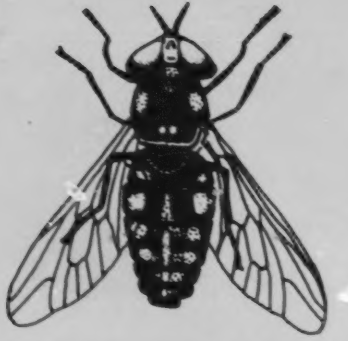
Tick



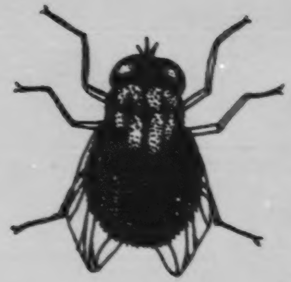
Horn Fly



Barn Fly



Horse Fly



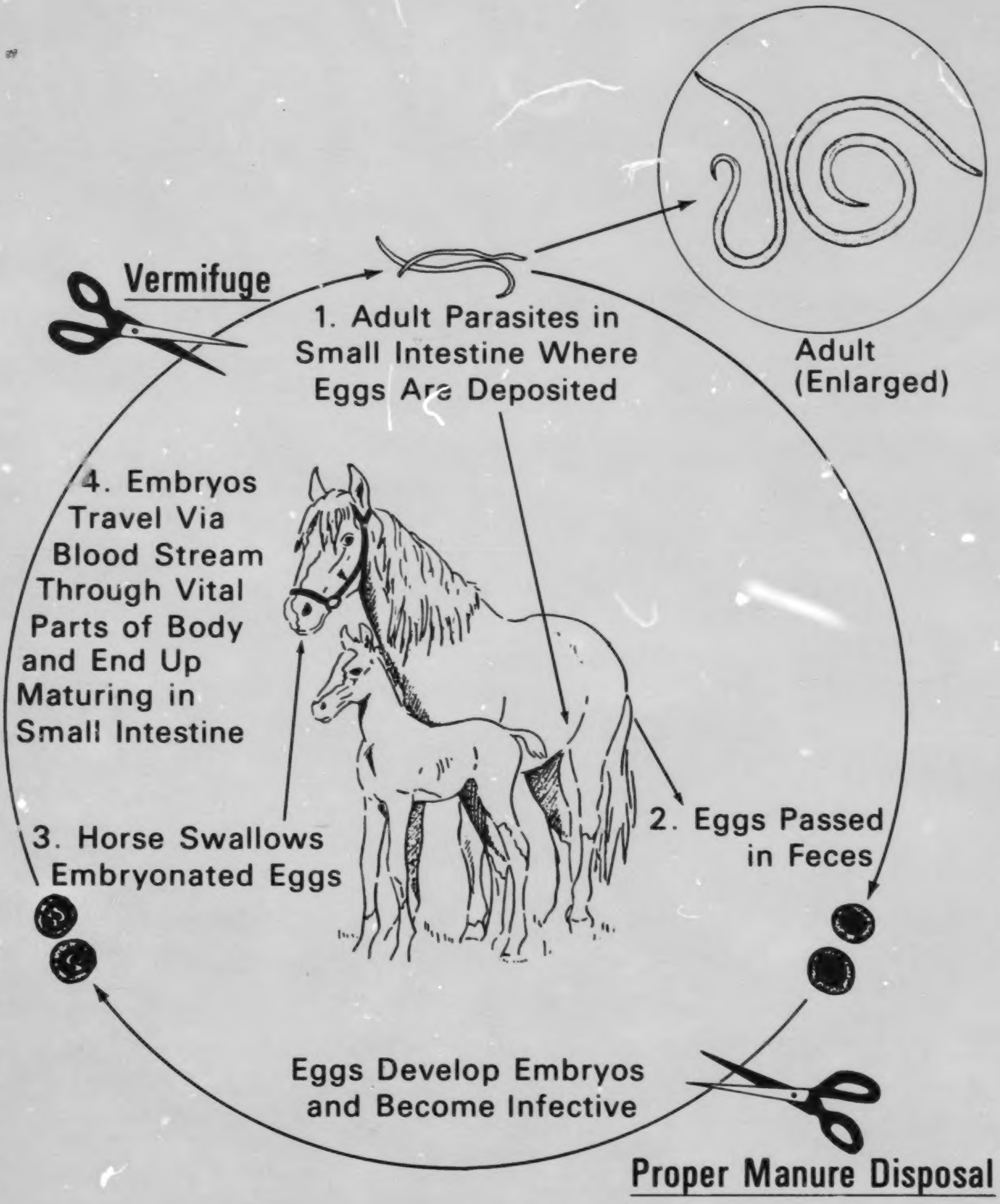
Screwworm Fly

TM 1

EQU-91-B

EQU - 93-B

Life Cycle: Ascarids


Vermifuge
1. Adult Parasites in Small Intestine Where Eggs Are Deposited
Adult (Enlarged)
4. Embryos Travel Via Blood Stream Through Vital Parts of Body and End Up Maturing in Small Intestine
2. Eggs Passed in Feces
3. Horse Swallows Embryonated Eggs
Eggs Develop Embryos and Become Infective
Proper Manure Disposal

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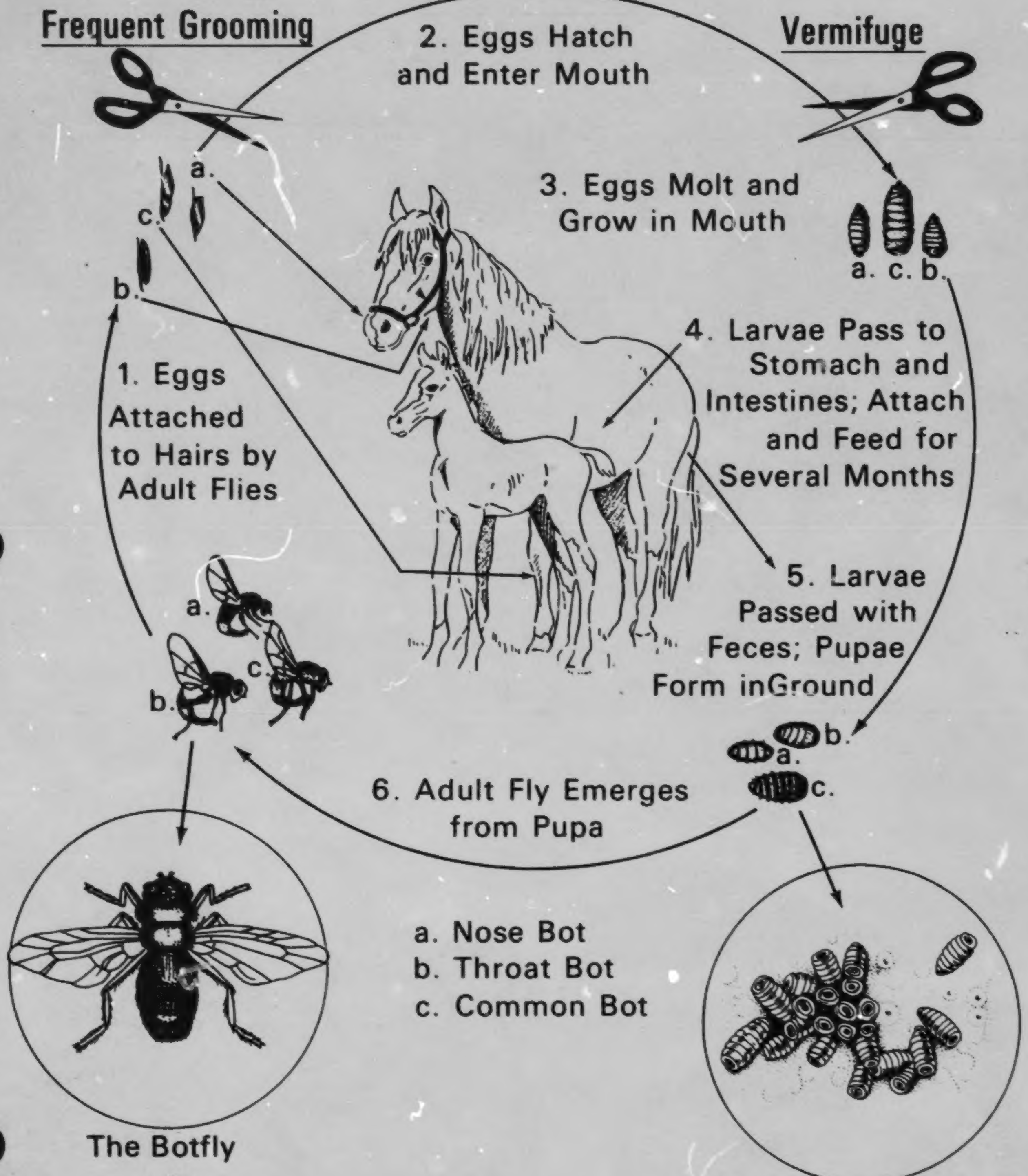
TM 2

Life Cycle: Bots

EQU - 95-B



Frequent Grooming

Vermifuge

2. Eggs Hatch and Enter Mouth

3. Eggs Molt and Grow in Mouth

4. Larvae Pass to Stomach and Intestines; Attach and Feed for Several Months

5. Larvae Passed with Feces; Pupae Form inGround

6. Adult Fly Emerges from Pupa

1. Eggs Attached to Hairs by Adult Flies

a. Nose Bot
b. Throat Bot
c. Common Bot

The Botfly

Bots in the Stomach

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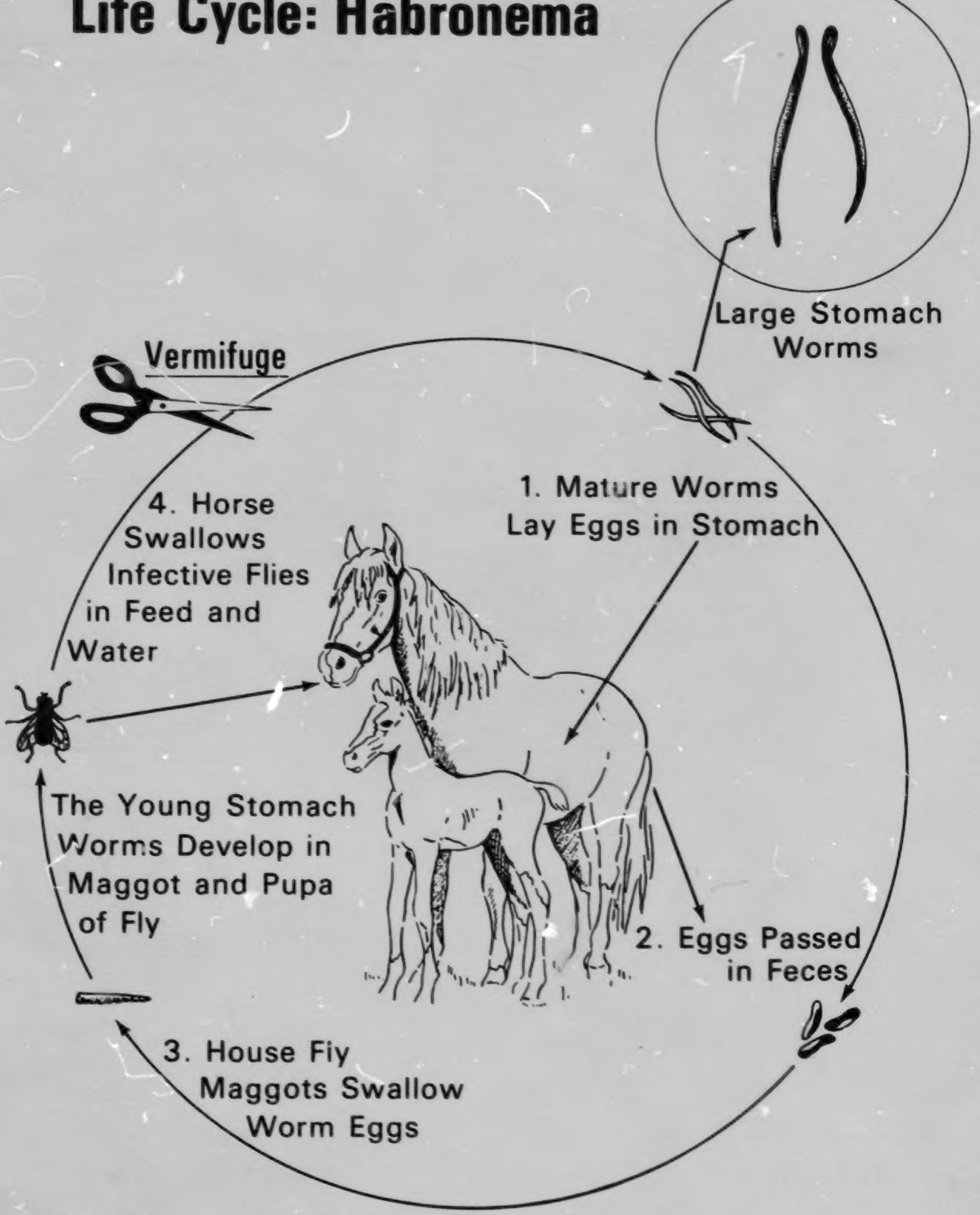
TM 3

Life Cycle: Habronema


Large Stomach Worms
Vermifuge
1. Mature Worms Lay Eggs in Stomach
4. Horse Swallows Infective Flies in Feed and Water
The Young Stomach Worms Develop in Maggot and Pupa of Fly
2. Eggs Passed in Feces
3. House Fly Maggots Swallow Worm Eggs

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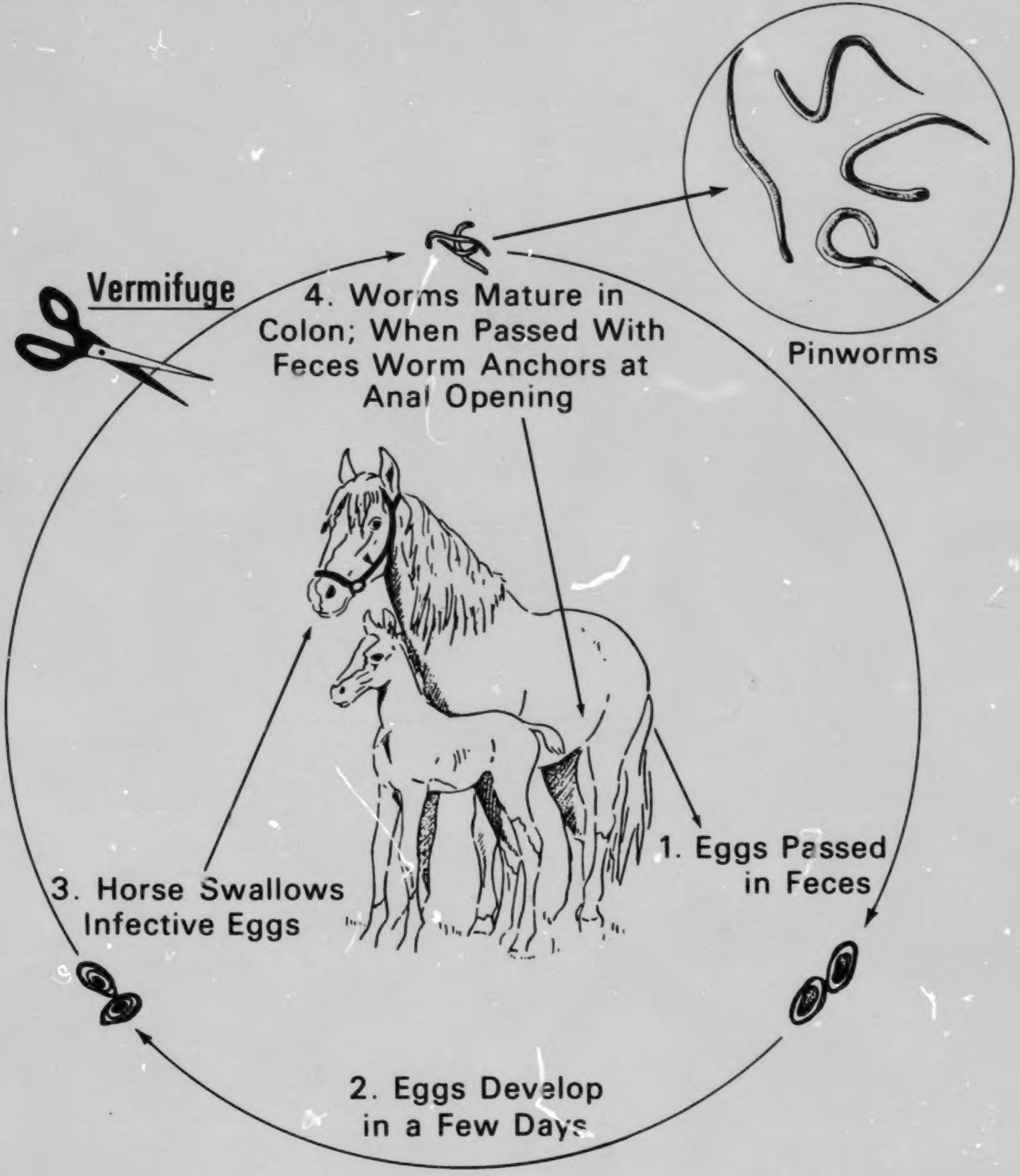
Life Cycle: Pinworms


Vermifuge
4. Worms Mature in Colon; When Passed With Feces Worm Anchors at Anal Opening
Pinworms
1. Eggs Passed in Feces
2. Eggs Develop in a Few Days
3. Horse Swallows Infective Eggs

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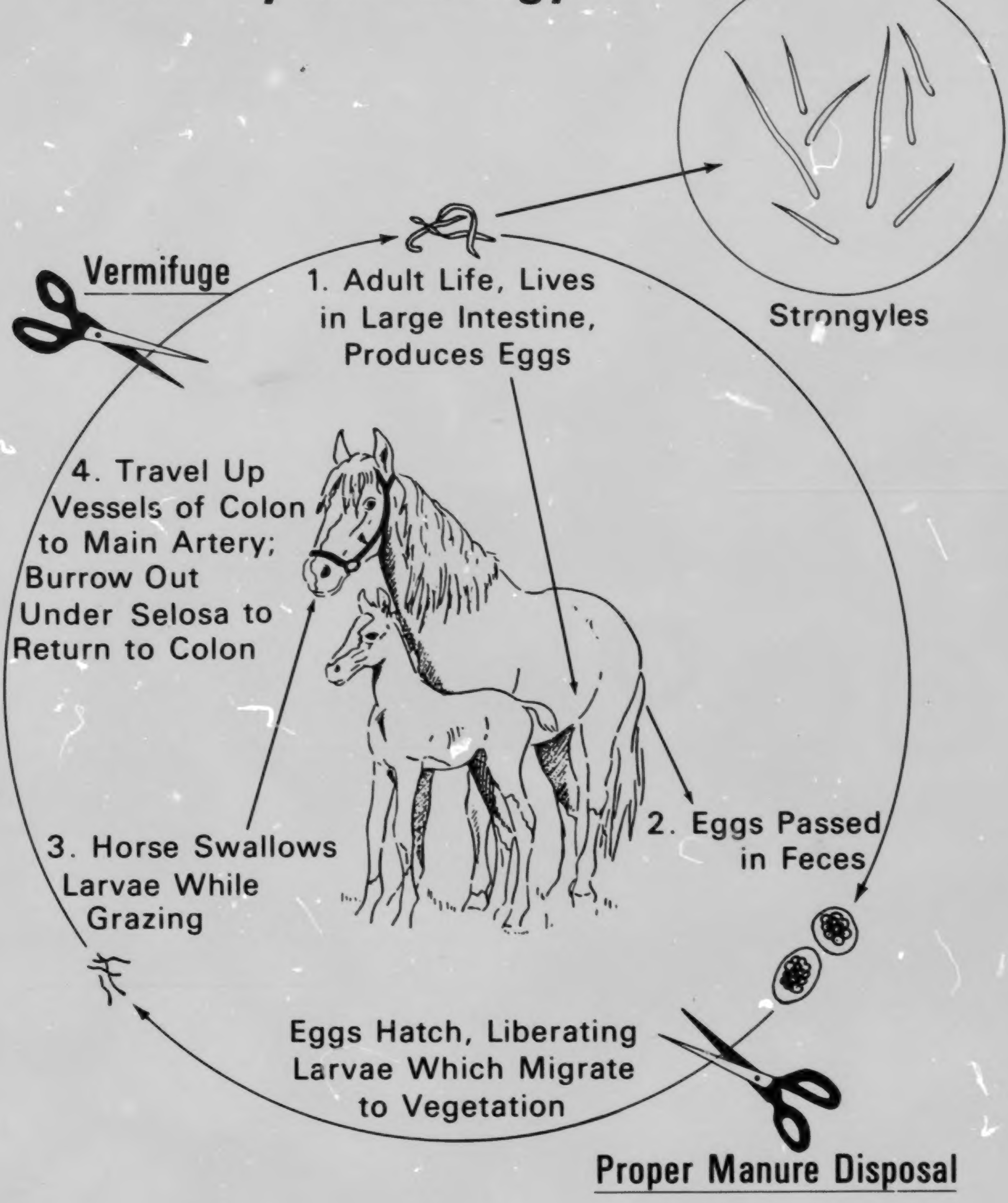
Life Cycle: Strongyles


Strongyles
1. Adult Life, Lives in Large Intestine, Produces Eggs
Vermifuge
2. Eggs Passed in Feces
Eggs Hatch, Liberating Larvae Which Migrate to Vegetation
Proper Manure Disposal
3. Horse Swallows Larvae While Grazing
4. Travel Up Vessels of Colon to Main Artery; Burrow Out Under Selosa to Return to Colon

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Compounds Effective Against Internal Parasites

Anthelmintics % of Major Parasites Removed from Host

	Ascarids	Strongylus Vulgaris	Strongylus Edentatus	Strongylus Equinus	Small Strongyles	Bots	Pinworms [adults]	Pinworms [larvae]
Cambendazole	94-99	98	98	98	94	--	--	--
Dichlorvos	99	99	85	--	90	90	99	99
Mebendazole	95-99	98-99	92	100	85-98	--	98-100	99
Phenothiazine/ Piperazine/ Carbon Disulfide	99	90	85	--	90	80	75	45
Piperazine	94	50	--	--	70	--	75	15
Piperazine/ Carbon Disulfide	99	50	--	--	90	80	75	15
Pyrantel	96-99	90-95	75-80	85-100	90	--	60-90	75
Thiabendazole	25-90	90	90	--	90	--	90	30
Thiabendazole/ Piperazine	90	90	90	--	90	--	90	30
Thiabendazole/ Trichlorfon	99	98	97	--	99	98	99	--
Trichlorfon*	90	40-90	15-40	--	80-90	90-99	90	5
Trichlorfon/ Phenothiazine/ Piperazine	95-99	40-95	15	--	60-90	90	90	--

*Trichlorfon and carbon disulfide are contraindicated in pregnant mares. Check labels for other precautions involving pregnant mares, foals, and sick or debilitated animals. Dichlorvos and trichlorfon are cholinesterase inhibitors.

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Deworming Schedules

DATE	FOALS*	YEARLINGS AND OTHER NON-PREGNANT ANIMALS	PREGNANT MARES
Feb. 1	Mebendazole (Paste or Powder) or Cambendazole (Paste)	Trichlorfon + Pyrantel	Thiabendazole
April 1	Pyrantel	Pyrantel	Pyrantel
June 1	Cambendazole or Mebendazole or Thiabendazole	Mebendazole Thiabendazole + Piperazine Cambendazole Fenbendazole	Mebendazole
August 1	Piperazine and Phenothiazine with Carbon Disulfide	Pyrantel	Pyrantel
October 1	Thiabendazole	Cambendazole Fenbendazole Thiabendazole + Piperazine	Thiabendazole
December 1	Dichlorvos	Piperazine and Phenothiazine and Carbon Disulfide Pyrantel + Trichlorfon Phenothiazine + Piperazine + Trichlorfon	Cambendazole
	*Start worming foals at 60 days of age and continue to worm every 8 weeks if possible		

Insecticides Effective Against Flies

Insecticide	Form	% Concentration Necessary for Control					
		CATTLE GRUB	HOUSEFLY	STABLE FLY	BLOWFLY	HORNFLY	FACE FLY
Carbaryl	Spray	--	0.5	0.5	--	0.5	--
Ciodrin	Spray	--	0.15-1	--	0.3	0.3	0.3
	Spray	--	2	2	--	--	--
Coumaphos	Spray	--	0.125	0.125	0.25	0.6	--
Dioxathian	Spray	--	0.15-0.6	0.15-0.6	--	0.15	--
Dichlorvos[1]	Spray	--	1	1	--	--	0.5
Malathion[2]	Spray	0.5	0.5	--	0.5	--	--
	Dust	--	--	--	4-5	--	--
Methoxychlor	Spray	--	0.5	0.5	--	0.5	--
Ronnel	Spray	--	0.25	0.25	--	0.5	--
Toxaphene	Spray	--	0.5	0.5	--	--	--
Pyrethrins[3]	Spray	--	0.05-0.1	0.05-0.1	--	0.05-0.1	--
Rotenone	Dust	1.5	--	--	--	--	--
Lindane	Spray	--	--	--	--	0.03-0.06	--

[1] Dichlorvos also used as space spray for house and stable flies at 0.5-1%

[2] Malathion also used as bait for house and stable flies at 0.5-2%

[3] Pyrethrins also used as space spray for house and stable flies at 0.1-0.25%

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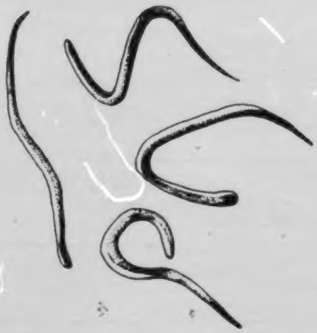
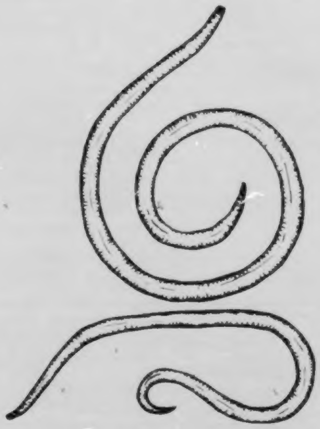
PARASITES
UNIT III

ASSIGNMENT SHEET #1--IDENTIFY INTERNAL PARASITES

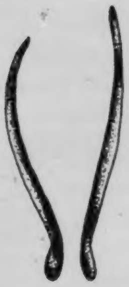
Identify the following internal parasites as they might be found in the internal portion of the horse or in the feces immediately following deworming.



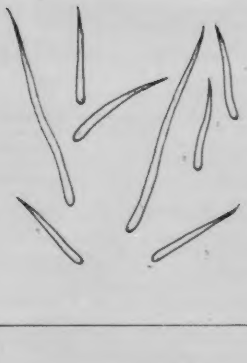
1.____________________________



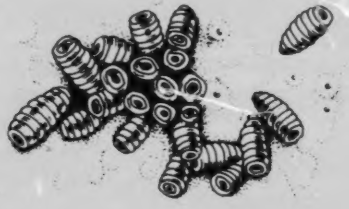
2.____________________________



3.____________________________



4.____________________________



5.____________________________

PARASITES
UNIT III

ASSIGNMENT SHEET #2--EVALUATE FACTORS THAT AFFECT SUSCEPTIBILITY OF HORSES TO PARASITES

Check the following conditions which make a horse less susceptible to parasites.

1.	( ) kept in stable	or	( ) on pasture
2.	( ) yearling	or	( ) five-year-old horse
3.	( ) fed in trough	or	( ) fed on ground
4.	( ) rotated pasture	or	( ) same pasture year around
5.	( ) stall cleaned daily	or	( ) stall cleaned weekly
6.	( ) manure spread directly from stall	or	( ) manure spread after two weeks of compacted storage
7.	( ) dewormed spring and fall	or	( ) dewormed every two months
8.	( ) one acre per animal unit	or	( ) five acres per animal unit
9.	( ) pond	or	( ) water tank
10.	( ) deworming all of herd at same time	or	( ) deworming individuals on rotational basis

PARASITES
UNIT III

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1. Pinworms
2. Ascarids
3. Habronema
4. Strongyles
5. Bots

Assignment Sheet #2

1. On pasture
2. Five-year-old horse
3. Fed in trough
4. Rotated pasture
5. Stall cleaned daily
6. Manure spread after two weeks of compacted storage
7. Dewormed every two months
8. Five acres per animal unit
9. Water tank
10. Deworming all of herd at same time

PARASITES
UNIT III

TEST

NAME ________________________________ SCORE ______________

1. Match the terms on the right to the correct definitions by placing the appropriate numbers in the blanks provided.

_____a. Most common and serious kind of internal parasite

_____b. Common internal parasite

_____c. Stage of development in parasite life cycle after emerged from egg

_____d. Stage of development in parasite life cycle between larval and adult stages

_____e. Organism that lives on or under the skin of an animal

_____f. Stages of development

_____g. Chemical materials used for deworming

_____h. Organism that lives in or on another animal and obtains its food from its host

_____i. Another term for anthelmintic

_____j. Internal parasite that attaches eggs to anus and causes intense itching, resulting in tail-rubbing

_____k. Larvae of botfly which live in the horse's stomach

_____l. Organism that lives part of its life cycle inside the animal's body

1. Ascarid
2. External parasite
3. Larvae
4. Parasite
5. Pupa
6. Vermifuge
7. Anthelmintics
8. Bots
9. Internal parasite
10. Life cycle
11. Pinworm
12. Strongyles

2. Select from the following list general symptoms of parasitic infection. Place an "X" in the appropriate blanks.

______ a. Active and vigorous

______ b. Unhealthy appearance

______ c. Slick and shiny coat

______ d. Paleness of membranes around eyes and mouth

______ e. Stunted growth and development in young animals

______ f. Long coupling and enlarged fetlock joints

3. Classify the following parasites as internal (I) and external (E) by placing the correct letter in the blanks provided.

______ a. Mites

______ b. Habronema

______ c. Bots

______ d. Flies

______ e. Tapeworms

______ f. Strongyles

______ g. Ticks

______ h. Ascarids

______ i. Lice

______ j. Mosquitoes

______ k. Pinworms

______ l. Strongyloides

4. Match the internal parasites on the right to the correct descriptions by placing the correct numbers in the blanks provided.

______ a. Bloodworms that live in the cecum and colon and range in size from scarcely visible to two inches in length, depending on species

______ b. Small worms that tend to form clusters at valve region of cecum; rarely cause problems unless present in exaggerated numbers

______ c. Larvae of botfly; eggs deposited on horse by fly and migrate to internal parts of horse's body

______ d. Intestinal round worms about the size of a pencil in diameter and 5" to 22" in length at maturity

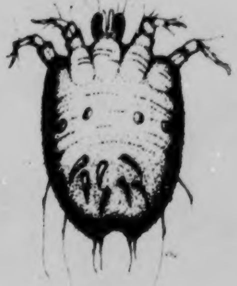
______ e. Stomach worms that are responsible for inflammation in the stomach and/or for a condition of external sores referred to as "summer sores"

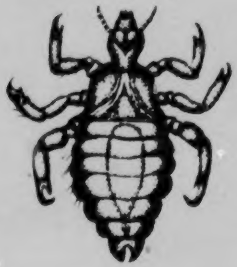
1. Habronema
2. Strongyloides
3. Ascarids
4. Bots
5. Tapeworms
6. Pinworms
7. Strongyles

______f. Intestinal threadworms that affect foals up to six months of age

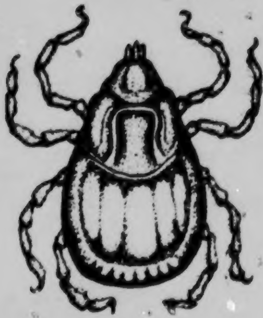
______g. Rectal worms that feed on vegetative matter; eggs laid by female on the skin surrounding anus cause intense itching and result in tail-rubbing and loss of hair

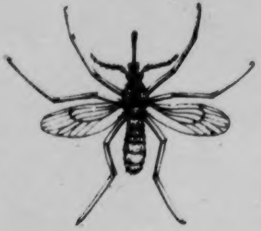
5. Identify the external parasites below by placing the correct answers in the blanks provided.



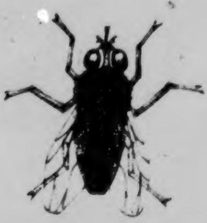


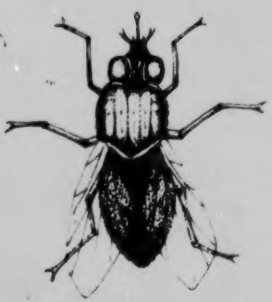
a. ______________________ b. ______________________



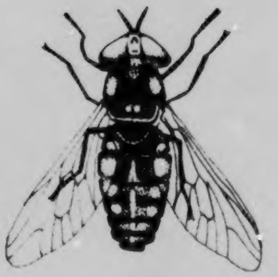


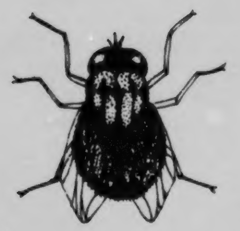
c. ______________________ d. ______________________





e. ______________________ f. ______________________

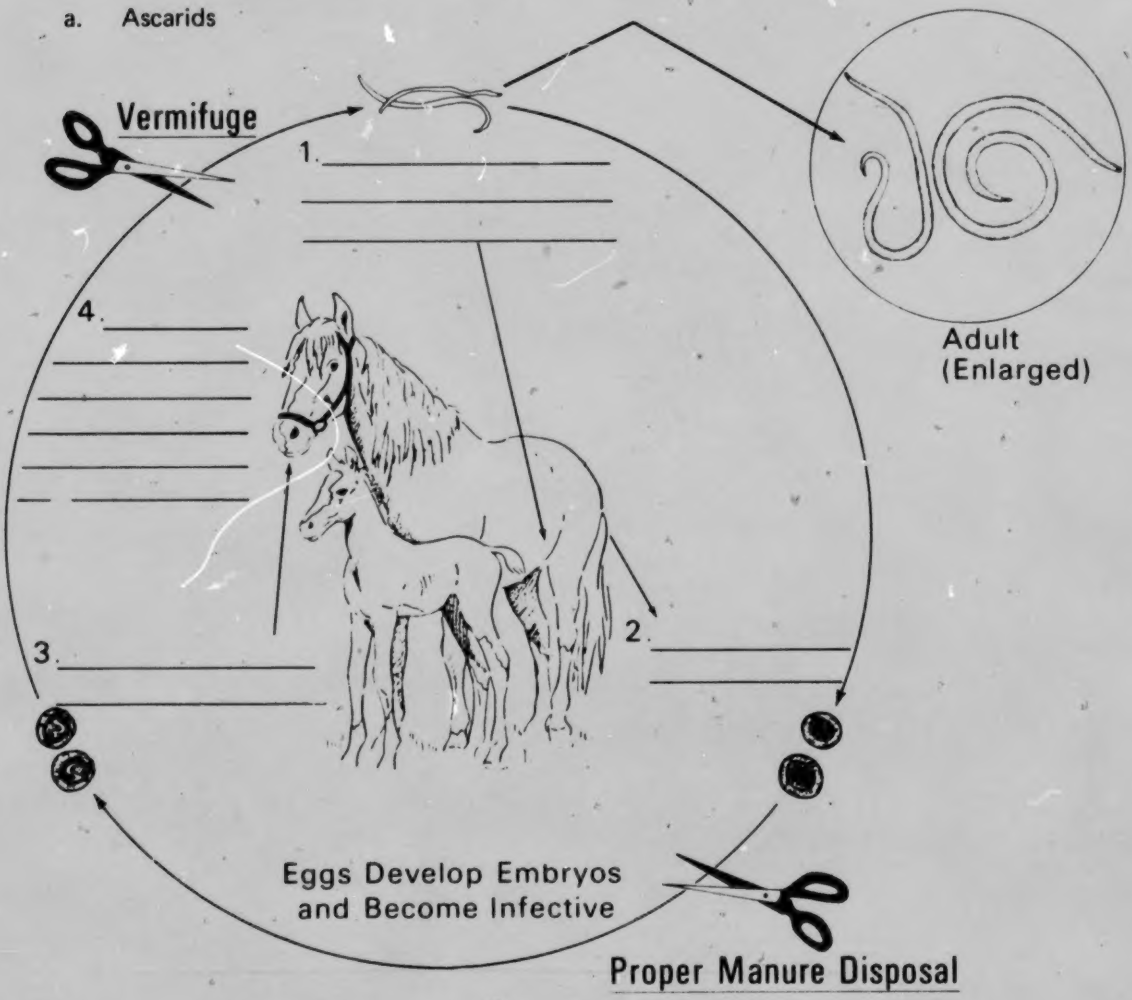




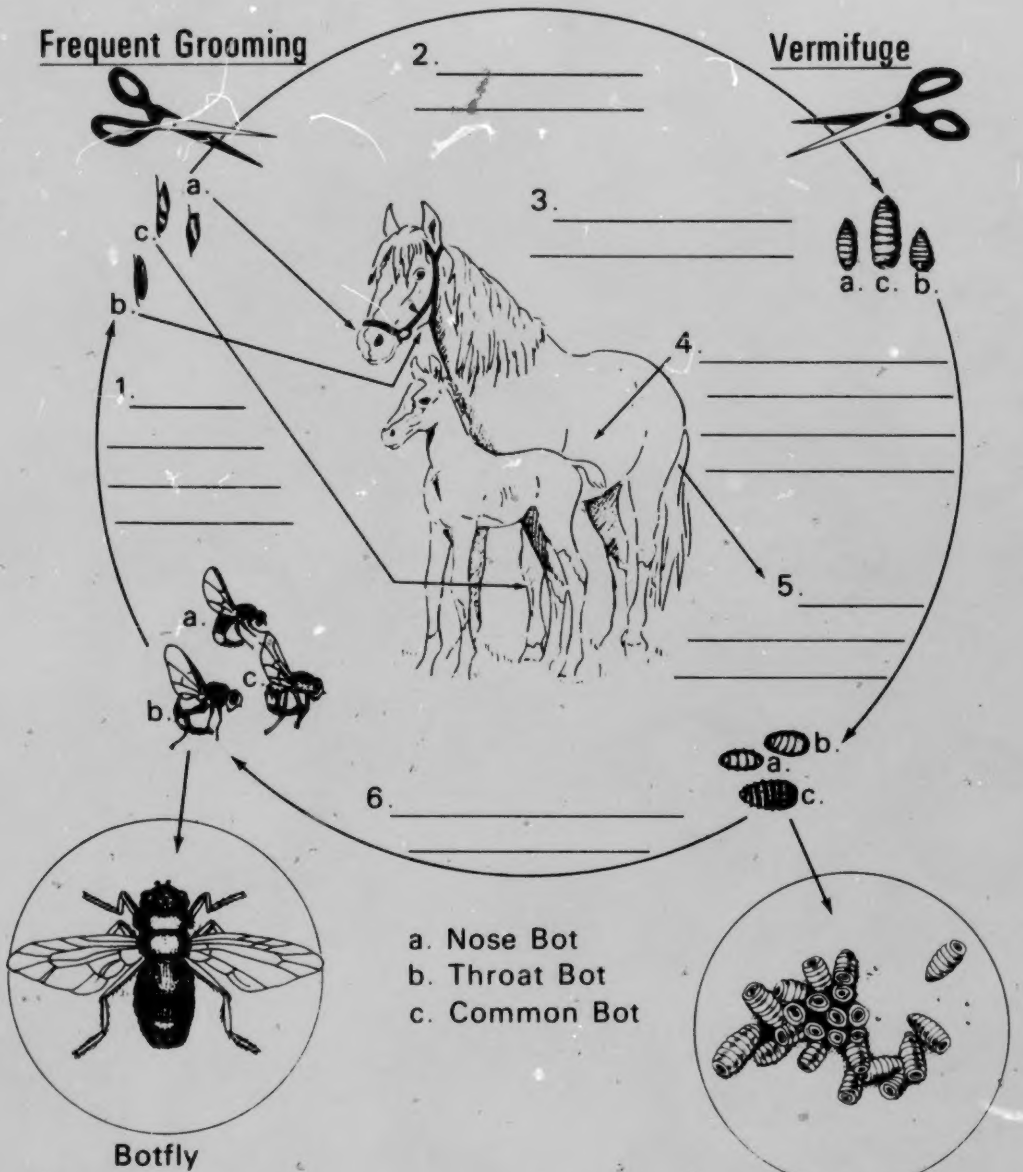
g. ______________________ h. ______________________

6. Label the steps in the life cycles of the following internal parasites by placing the correct answers in the blanks provided.

   a. Ascarids


Vermifuge
1. ______________
2. ______________
3. ______________
4. ______________
Adult (Enlarged)
Eggs Develop Embryos and Become Infective
Proper Manure Disposal

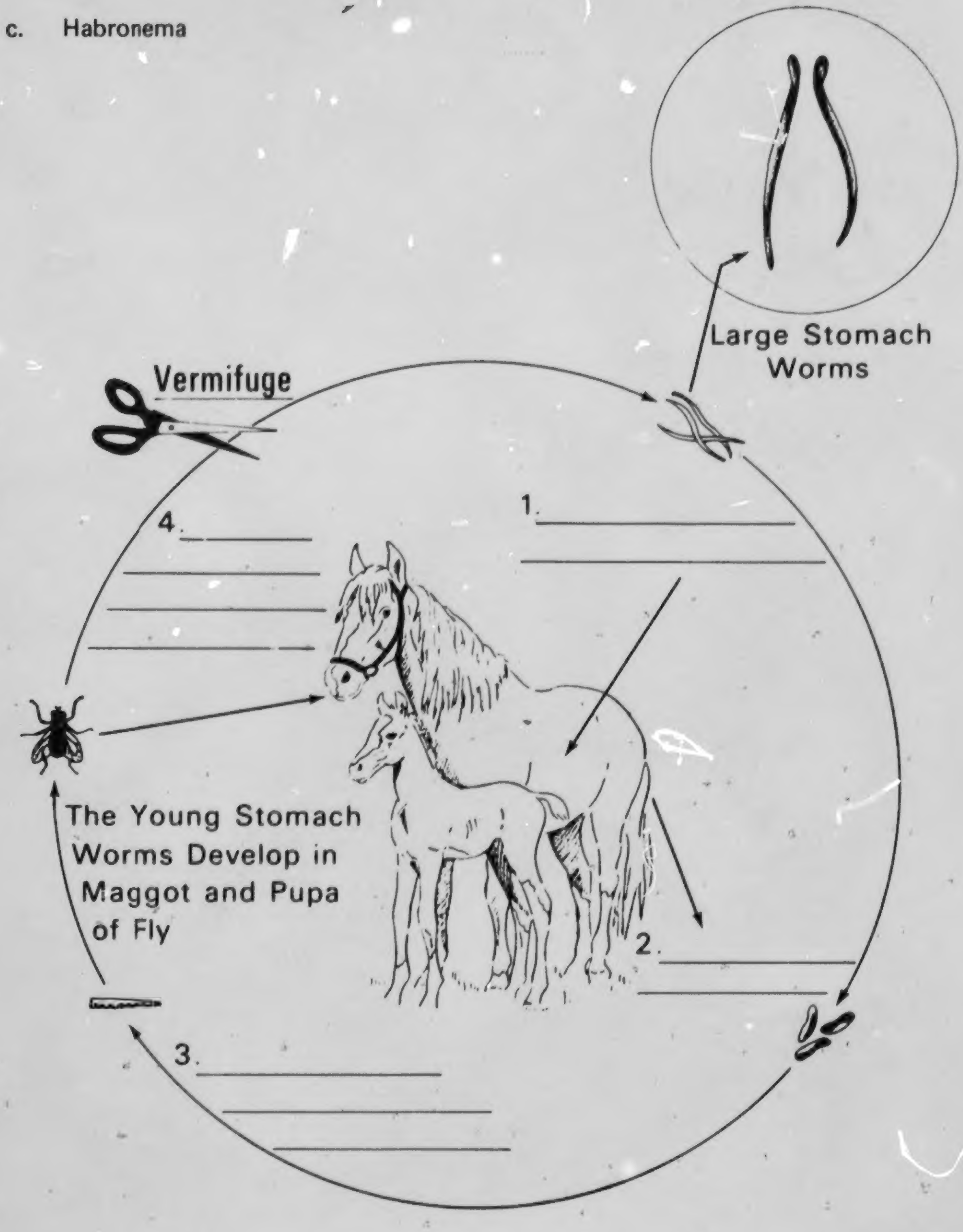
b. Bots


Frequent Grooming
Vermifuge
1.
2.
3.
4.
5.
6.
a.
b.
c.
a. c. b.
a. Nose Bot
b. Throat Bot
c. Common Bot

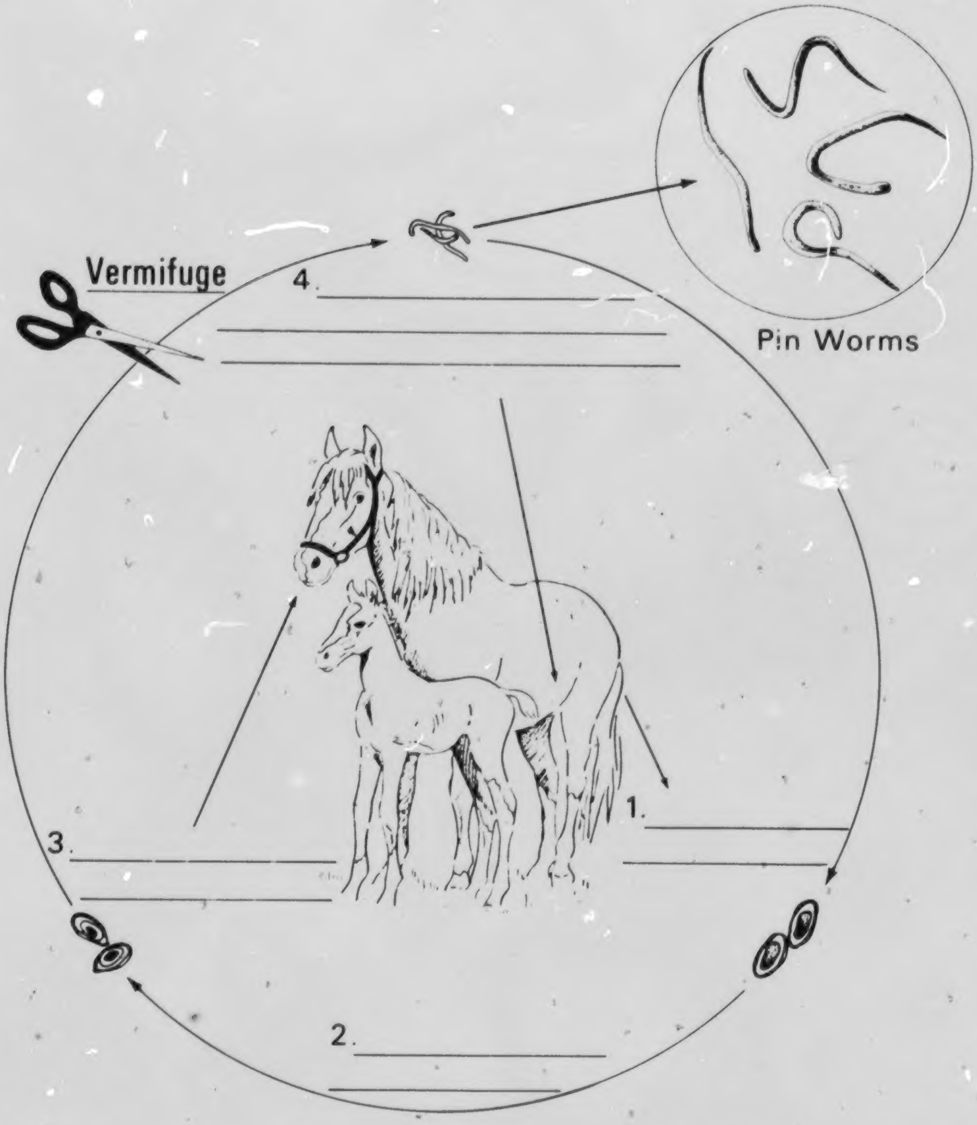
Botfly

Bots in the Stomach

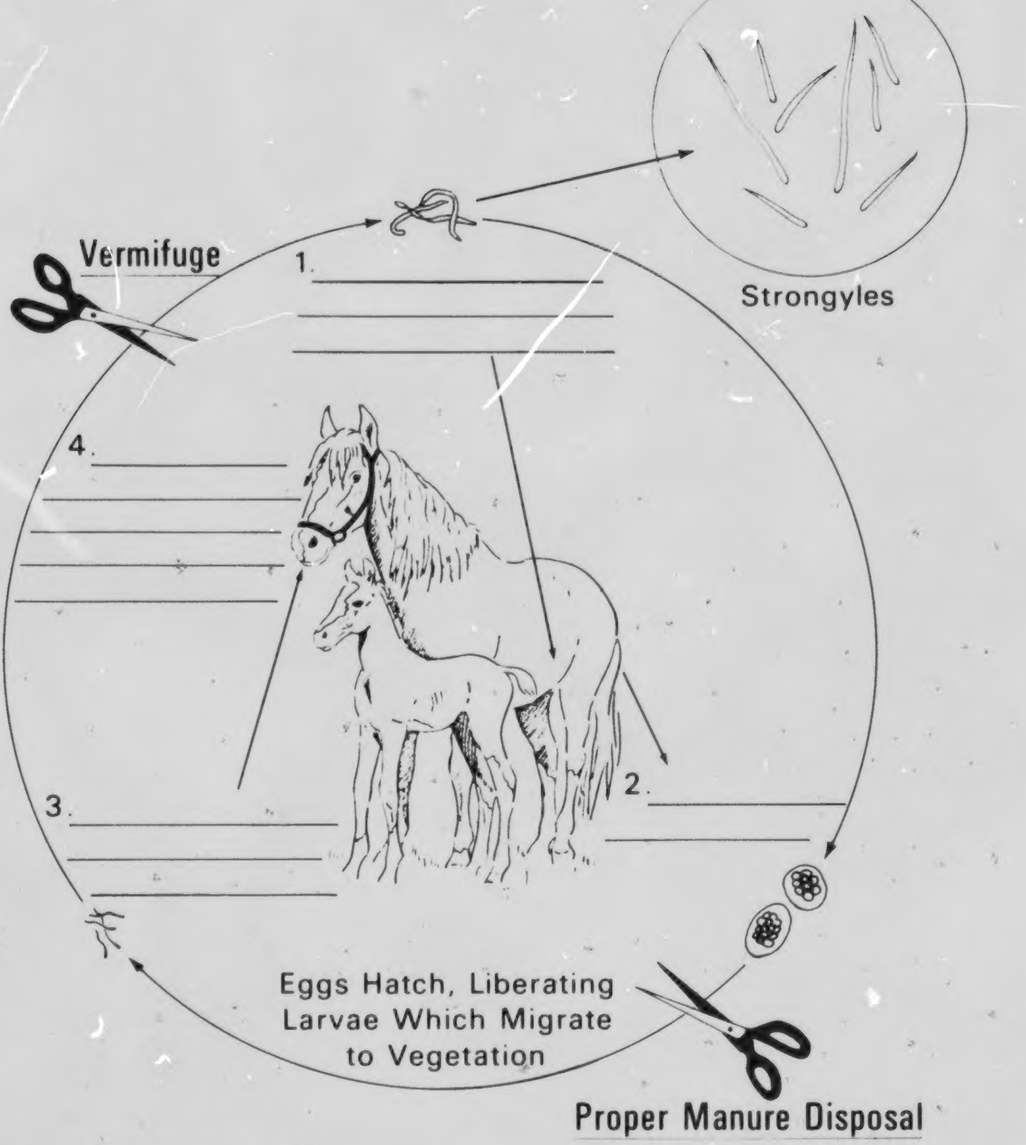
c. Habronema


Large Stomach Worms
Vermifuge
1. ____________
2. ____________
3. ____________
4. ____________
The Young Stomach Worms Develop in Maggot and Pupa of Fly

d. Pinworms


Vermifuge
4.
Pin Worms
1.
2.
3.

e. Strongyles


Strongyles
Vermifuge
1. ______
2. ______
3. ______
4. ______
Eggs Hatch, Liberating Larvae Which Migrate to Vegetation
Proper Manure Disposal

7. List seven guidelines for the uses of anthelmintics.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e. ______________________________

f. ______________________________

g. ______________________________

8. Distinguish between anthelmintics effective against internal parasites (A) and insecticides effective against external parasites (I) by placing the correct letters in the blanks provided.

_____a. Cambendazole

_____b. Coumaphos

_____c. Ciodrin

_____d. Phenothiazine

_____e. Rotenone

_____f. Toxaphene

_____g. Pyrantel

_____h. Trichlorfon

_____i. Lindane

_____j. Methoxychlor

_____k. Carbon disulfide

_____l. Ronnel

_____m. Malathion

_____n. Mebendazole

9. Complete a chart on common external parasites by filling in the blanks.

External Parasite	Pathology	Breeding Areas	Methods of Control
Stable fly Horse fly Deer fly Horn fly Mosquitoes	Bite Bite Bite Bite Bite	c. ________________ ________________ Standing water	Insecticide sprays, fly predators
a. __________	Irritates, carries pinkeye	Fresh manure	Insecticide smears/treated halters
House fly	Nuisance	Horse manure	Sprays, baits
Screwworm	Maggots destroy live flesh	d. ________________	Sprays, smears
b. __________	Non-biting internal parasite	Eggs laid on legs, pupate in manure	Oral anthelmintics
Lice	Suck blood, feed on skin debris	Eggs attached to hair	Dipping, sprays, dusts
Ticks	Irritation, biting, spread piroplasmosis	Eggs laid in protected places	e. ____________ ______________
Mites	Mange	On animal	Dips, sprays

10. List six management practices used in prevention of parasitism.

a. ____

b. ____

c. ____

d. ____

e. ____

f. ____

11. Discuss precautions necessary when using insecticides for external parasites.

____

____

____

____

____

____

____

____

12. Evaluate factors that affect susceptibility of horses to parasites.

(NOTE: If the above activity has not been accomplished prior to the test, ask the instructor when it should be completed.)

PARASITES
UNIT III

ANSWERS TO TEST

1. a. 12   g. 7
   b. 1   h. 4
   c. 3   i. 6
   d. 5   j. 11
   e. 2   k. 8
   f. 10   l. 9
2. b, d, e
3. a. E   g. E
   b. I   h. I
   c. I   i. E
   d. E   j. E
   e. I   k. I
   f. I   l. I
4. a. 7
   b. 5
   c. 4
   d. 3
   e. 1
   f. 2
   g. 6
5. a. Mite
   b. Lice
   c. Tick
   d. Mosquito

e. Horn fly

f. Barn fly

g. Horse fly

h. Screwworm fly

6. a. Ascarids

   1) Adult parasite in small intestine where eggs are deposited

   2) Eggs passed in feces

   3) Horse swallows embryonated eggs

   4) Embryos travel via bloodstream through vital parts of body and end up maturing in small intestine

b. Bots

   1) Eggs attached to hairs by adult flies

   2) Eggs hatch and enter mouth

   3) Eggs molt and grow in mouth

   4) Larvae pass to stomach and intestines; attach and feed for several months

   5) Larvae passed with feces; pupae form in ground

   6) Adult fly emerges from pupa

c. Habronema

   1) Mature worms lay eggs in stomach

   2) Eggs passed in feces

   3) House fly maggots swallow the worm eggs

   4) Horse swallows infective flies in feed and water

d. Pinworm

   1) Eggs passed in feces

   2) Eggs develop in a few days

   3) Horse swallows infective eggs

   4) Worms mature in colon; when passed with feces worm anchors at anal opening

e. Strongyles

    1) Adult life, lives in large intestine, produces eggs

    2) Eggs passed in feces

    3) Horse swallows larvae while grazing

    4) Larvae travel up vessels of colon to main artery; burrow out under selosa to return to colon

7. Any seven of the following:

    a. Deworm all animals on premises at same time

    b. Deworm and quarantine all new additions to herd

    c. Deworm at frequent intervals (8 weeks optimum)

    d. Alternate anthelmintics to avoid build up of resistant worm population

    e. Calculate dose by body weight

    f. Administer by route most beneficial

        1) Stomach tube--Must be done by veterinarian

        2) Dose syringe--Place substance on back of tongue

        3) Feed additive--Sprinkle on feed

    g. Take precautions in deworming foals, pregnant mares, and heavily parasitized or very poor animals

    h. Deworm broodmares 60 days before foaling

    i. Consult veterinarian concerning fecal examinations and abnormalities

8. a. A

    b. I

    c. I

    d. A

    e. I

    f. I

    g. A

    h. A

    i. I

    j. I

    k. A

    l. I

    m. I

    n. A

9. a. Face fly
   b. Botfly
   c. Moist, decaying matter
   d. Wounds
   e. Dips, sprays, dusts, powders

10. Any six of the following:
    a. Feed hay and grain in trough and/or manger, not on the ground
    b. Supply fresh, clean water
    c. Clean manure daily from stalls and small paddocks
    d. Store manure in a tightly constructed pit for at least a two-week interval prior to spreading
    e. Mow and rake pastures frequently
    f. Rotate pasture, alternately graze cattle and horses, and let pasture rest three months of year
    g. Treat infected animals prior to turning out to a clean area
    h. Deworm at a minimum of three-month intervals
    i. Treat with effective insecticide during late spring, summer, and early fall
    j. Provide good sanitary measures and a high level of nutrition

11. Discussion should include:
    a. Use only insecticides approved and recommended for use on horses
    b. Avoid contamination of feed and water supplies
    c. Replenish baits weekly
    d. Follow label directions carefully
    e. Know toxicity signs of insecticide poisoning
    f. Store out of way and in a safe place

12. Evaluated to the satisfaction of the instructor

FUNDAMENTALS OF FOOT CARE
UNIT IV

UNIT OBJECTIVE

After completion of this unit, the student should be able to maintain healthy hooves and recommend if the farrier is needed. This knowledge will be evidenced through completion of job sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with foot care to correct definitions.
2. Match external parts of the foot to correct definitions.
3. Identify internal parts of the foot.
4. Match parts of the foot to their specific relationships and/or functions.
5. Select from a list the critical factors in the care of a foot.
6. List means of maintaining sufficient moisture in the hoof.
7. Select from a list the most common causes of lameness.
8. Arrange in order steps for lifting the horse's front and rear feet.
9. Demonstrate the ability to lift, clean, and check the foot.

FUNDAMENTALS OF FOOT CARE
UNIT IV

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide students with objective sheet.

   B. Provide students with information and job sheets.

   C. Make transparencies.

   D. Discuss unit and specific objectives.

   E. Discuss information sheet.

   F. Demonstrate and discuss procedures outlined in job sheet.

   (NOTE: One horse is essential, but a group of horses aids the students in gaining confidence.)

   G. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Transparency masters

      1. TM 1--External Parts of the Foot (Side View)

      2. TM 2--External Parts of the Foot (Bottom View)

      3. TM 3--Internal Parts of the Foot

   D. Job Sheet #1--Lift, Clean, and Check the Foot

   E. Test

   F. Anwers to test

III. Unit references:

   A. Beaston, Bud. *The Master Farrier*. Sperry, Oklahoma: Oklahoma Farrier's College, 1975.

   B. Canfield, D. M. *Elements of Farrier Science*. Albert Lea, Minnesota: Enders Tool Co., Inc., 1968.

C. Emery, Leslie; Miller, Jim; and Van Hoosen, Nyles. *Horseshoeing Theory and Hoof Care*. Philadelphia, Pennsylvania: Lea and Febiger, 1977.

D. Hanauer, Elsie V. *No Foot-No Horse*. Minneapolis, Minnesota: Burgess Publishing Company, 1977.

FUNDAMENTALS OF FOOT CARE
UNIT IV

INFORMATION SHEET

I. Terms and definitions

- A. Foot--Area from the cannon bone through the hoof
- B. Hoof--Strong, balanced, horny covering of the foot from the coronary band to the ground
- C. Soak stall--Confined area filled with mud used to soak horse's feet when too dry and hard
- D. Farrier--Horseshoer
- E. Commissures--Deep groves in bottom of hoof located on both sides of the frog
- F. Hock--Joint area just above the cannon on the rear leg
- G. Off side--Right side of the horse
- H. Near side--Left side of the horse
- I. Conformation--Structure, form, and symmetrical arrangements of parts as applied to a horse; dictates angle of bottom of hoof to the ground

II. External parts of the foot

- A. Side view (Transparency 1)
  1. Cannon--Area between knee and fetlock
  2. Fetlock--Area that connects pastern and cannon
  3. Pastern--Area between hoof and fetlock
  4. Perioplic ring--Narrow strand of flesh which lies just above the coronary band
  5. Coronary band--Thick section of tough flesh at the top of the hoof where the skin and hide join with the hoof wall
  6. Hoof wall--Tough, horny outer shell which protects sensitive area and supports most of the horse's weight

INFORMATION SHEET

B. Bottom view (Transparency 2)

  1. Heel--Rear portion of foot that makes contact with ground first when horse is in motion
  2. Quarter--Thinnest portion of wall halfway around the side of the hoof
  3. Toe--Front of hoof; leaves ground last as horse is in motion
  4. Bulbs--Rounded edges at the rear that are located at termination point of coronary band
  5. Frog--Wedge-shaped soft horn structure in the rear of the underside of the hoof
  6. Commissures--Deep grooves on both sides of the frog
  7. Bars--Continuation of the bearing edge of the wall; located behind each quarter of the hoof
  8. Sole--Undersurface of the hoof located just inside the wall beyond the separation of the white line

III. Internal parts of the foot (Transparency 3)

  A. Cannon bone
  B. Fetlock joint
  C. Long pastern
  D. Pastern joint
  E. Short pastern
  F. Coffin joint
  G. Coffin bone
  H. Navicular bone
  I. Laminae

IV. Relationships and/or functions of the parts of the foot

  A. Four major bones--Provide framework of the foot and facilitate locomotion

     (NOTE: The four major bones are the cannon, pastern, coffin, and navicular.)

  B. Corium--Modified vascular tissue that furnishes nutrition to hoof

INFORMATION SHEET

C. Elastic structure--Absorbs concussion or jar when the foot strikes the ground

D. Coronary band--Area of production of horny wall; located at the hair line immediately above the hoof

E. Hoof wall--Outer covering that encloses and protects the sensitive parts

F. Perioplic ring--Produces periople, the varnish-like substance that covers the outer surface of the wall and seals it from excessive drying

G. White line--Layer of soft horn which appears at the bottom of the foot between the wall and sole

H. Frog--Cushions internal parts and aids in traction and blood circulation

I. Commissures--Give elasticity

J. Sole--Protects sensitive inner foot parts from injury by hard objects on the ground

K. Bars--Help support the foot and keep it open at the heels

V. Critical factors in the care of the foot

A. Trimming

B. Shoeing

C. Cleaning the hoof

D. Correct moisture content

E. Hoof wear

F. Daily inspection

G. Conformation

VI. Maintaining sufficient moisture in the hoof

A. Allow horse access to wet areas

Examples: Overflow water tank, stream

B. Apply hoof dressing

C. Soak stall

INFORMATION SHEET

- D. Pack with mud
- E. Wrap in wet burlap feed bags

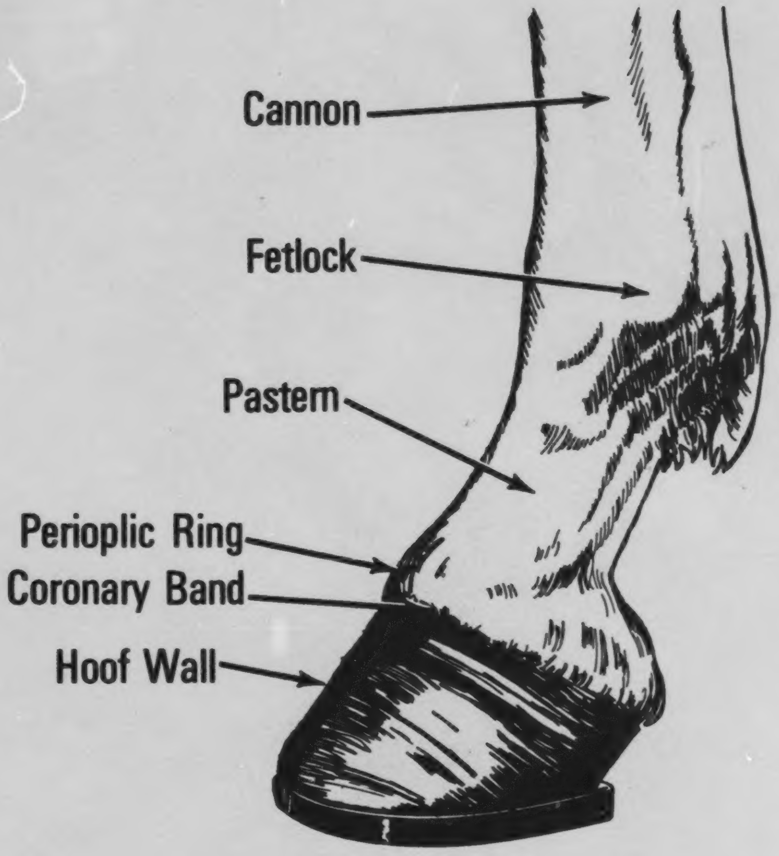
VII. Most common causes of lameness

- A. Poor hoof care
- B. Conformation
- C. Injury
- D. Bad shoeing
- E. Foreign object in hoof
- F. Disease of the foot
- G. Lack of moisture

VIII. Lifting the horse's foot

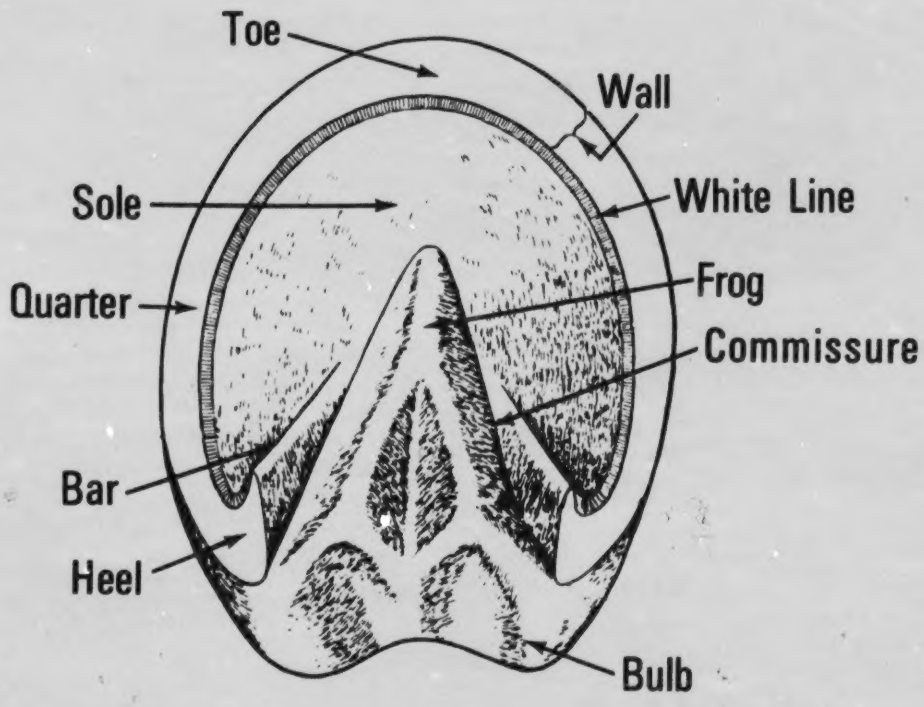
- A. Front
  1. Approach from near side
  2. Touch gently on the neck
  3. Slide hand slowly down inside of leg
  4. Touch on inside of cannon bone below knee for horse to give you its foot
  5. Avoid making contact with any other part of horse's body to prevent horse from leaning on you
  6. Handle foot in relaxed manner and horse will relax
  7. Keep foot in vertical plane with horse's body to avoid strain
- B. Rear
  1. Rest hand on horse's hip
  2. Use free hand to squeeze gently just below the hock
  3. Wait a few seconds for horse to give you its foot
  4. Move under foot gently, NEVER straddling rear leg
  5. Handle foot gently, never pulling it out or trying to force horse to give it to you

External Parts of the Foot (Side View)


Cannon
Fetlock
Pastern
Perioplic Ring
Coronary Band
Hoof Wall

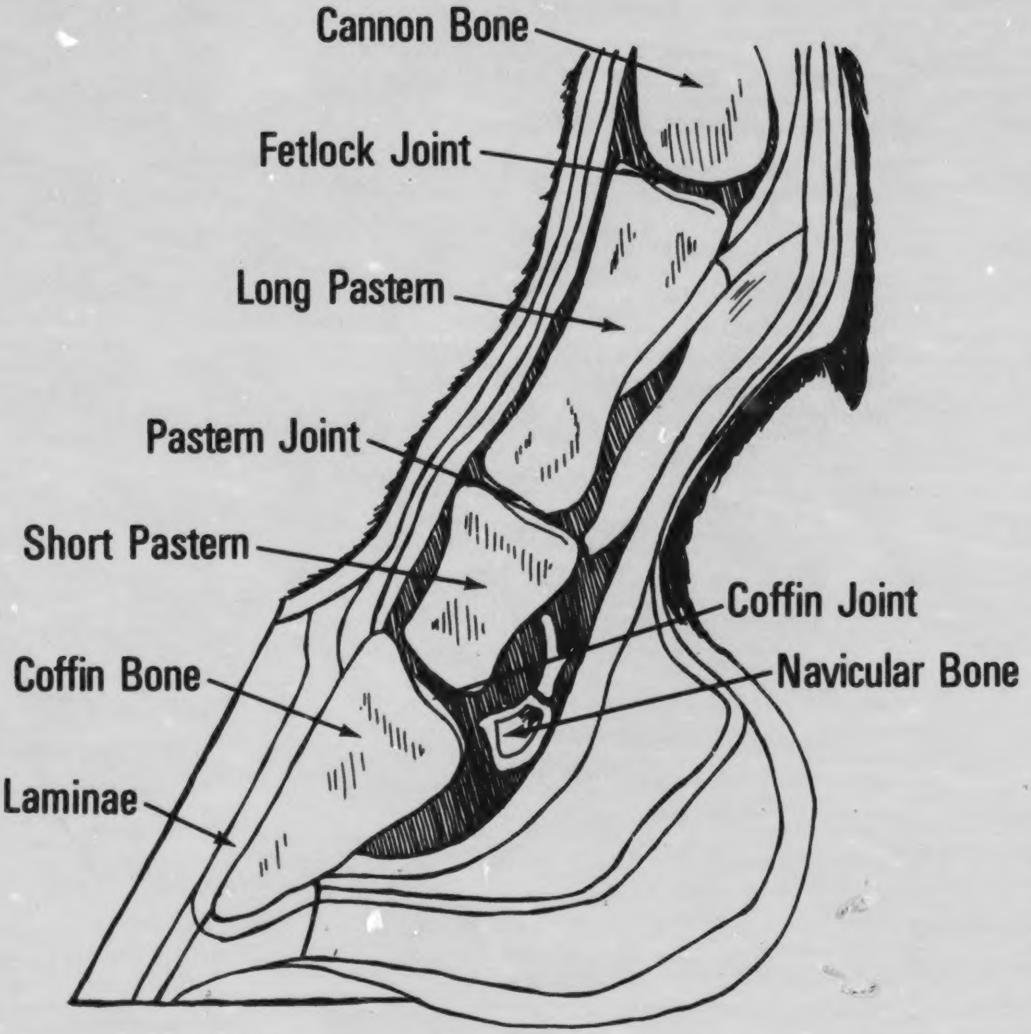
2330

External Parts of the Foot (Bottom View)


Toe
Wall
Sole
White Line
Quarter
Frog
Commissure
Bar
Heel
Bulb

Used by permission of Bud Beaston, Sperry, Oklahoma, from *The Master Farrier*, copyright 1975, p. 22.

Internal Parts of the Foot


Cannon Bone
Fetlock Joint
Long Pastern
Pastern Joint
Short Pastern
Coffin Joint
Coffin Bone
Navicular Bone
Laminae

FUNDAMENTALS OF FOOT CARE
UNIT IV

JOB SHEET #1–LIFT, CLEAN, AND CHECK THE FOOT

I. Tools and materials

A. Horse (gentle)

B. Hoof pick

C. Hoof dressing

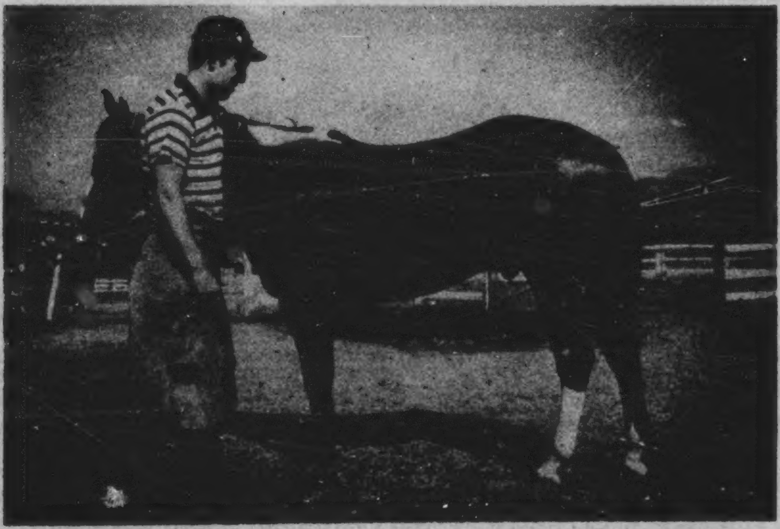
II. Procedure for left front foot

(NOTE: Tie horse or have someone hold it with a halter. If a person is holding horse, he/she would always be on the same side as person lifting foot. If holder is on the same side and pulls the horse toward him/her, the back end of the horse will be thrown around the opposite way, leaving the person lifting the foot free and clear.)

A. Approach the horse from near side while facing the rear

B. Place left hand gently on horse's neck (Figure 1)

FIGURE 1



C. Slide right hand slowly down inside of horse's left front leg

JOB SHEET #1

D. Apply slight pressure to inside cannon slightly below the knee (Figure 2)

FIGURE 2

E. Raise leg upward and towards the rear as horse gives you its foot

(CAUTION: Do not place strain on horse's leg.)

F. Place left hand under hoof or straddle leg, allowing hoof to rest just above your knees for support (Figure 3)

(NOTE: Stand with your toes pointing inward and bent at the knees so horse is comfortable.)

FIGURE 3

JOB SHEET #1

G. Stand relaxed and your horse will relax

H. Clean foot with hoof pick by using a heel-to-toe motion, especially in the commissures

(NOTE: Use ample pressure to remove all dirt and foreign material.)

I. Check frog for elasticity by applying pressure with the thumb

(NOTE: If frog is hard and hoof shows signs of cracking, conditioner is needed.)

J. Apply hoof conditioner to sole and frog if needed

(NOTE: A toothbrush is good to use as an applicator, but conditioner may be applied with the fingers.)

K. Set hoof on ground

(CAUTION: Do not drop!)

L. Apply hoof conditioner around coronary band if needed

III. Procedure for left rear foot

A. Approach horse from near side

B. Place left hand gently on horse's hip

C. Grip leg just below the hock and squeeze gently

D. Reach out with left hand and hold toe after horse raises its foot (Figure 4)

FIGURE 4

JOB SHEET #1

E. Move slowly under foot when horse relaxes

(CAUTION: Do not pull foot out to you or try to force horse to give it to you.)

F. Place cannon on your thigh, allowing foot to rest on your knees (Figure 5)

(CAUTION: Do not straddle rear leg.)

FIGURE 5

G. Clean foot with hoof pick by using a heel-to-toe motion, especially in the commissures

(NOTE: Use ample pressure to remove all dirt and foreign material.)

H. Check frog for elasticity by applying pressure with the thumb

I. Apply hoof conditioner to sole and frog if needed

J. Set hoof on ground

K. Apply hoof conditioner around coronary band if needed

JOB SHEET #1

IV. Procedure for right rear foot

- A. Approach horse from off side
- B. Place right hand gently on horse's hip
- C. Grip leg just below the hock with left hand and squeeze gently
- D. Reach with right hand and hold toe after the horse raises its foot
- E. Move under foot when horse relaxes

  (NOTE: Keep in mind all cautions mentioned while working with the other rear leg.)
- F. Place cannon on your right thigh
- G. Clean foot with hoof pick by using a heel-to-toe motion, especially in the commissures

  (NOTE: Use ample pressure to remove all dirt and foreign material.)
- H. Check frog for elasticity by applying pressure with the thumb
- I. Apply hoof conditioner to sole and frog if needed
- J. Set hoof on ground
- K. Apply hoof conditioner around coronary band if needed

V. Procedure for right front foot

- A. Approach horse from off side while facing the rear
- B. Place right hand gently on horse's neck
- C. Slide left hand slowly down inside of horse's right front leg
- D. Apply slight pressure inside cannon immediately below the knee
- E. Raise foot upward and towards the rear
- F. Place right hand under hoof or straddle hoof, allowing it to rest just above your knees
- G. Clean foot with hoof pick by using a heel-to-toe motion, especially in the commissures

  (NOTE: Use ample pressure to remove all dirt and foreign material.)
- H. Check frog for elasticity by applying pressure with the thumb

JOB SHEET #1

I. Apply hoof conditioner to sole and frog if needed

J. Set hoof on ground

K. Apply hoof conditioner around coronary band if needed

FUNDAMENTALS OF FOOT CARE
UNIT IV

TEST

NAME ____ SCORE __________________

1. Match the terms on the right to the correct definitions. Place the appropriate numbers in the blanks provided.

______a. Strong, balanced, horny covering of the foot from the coronary band to the ground

______b. Horseshoer

______c. Left side of the horse

______d. Structure, form, and symmetrical arrangements of parts as applied to a horse; dictates angle of bottom of hoof to the ground

______e. Right side of the horse

______f. Joint area just above cannon on the rear leg

______g. Deep groves in bottom of hoof located on both sides of the frog

______h. Area from the cannon bone through the hoof

______i. Confined area filled with mud used to soak horse's feet when too dry and hard

1. Farrier
2. Hoof
3. Near side
4. Conformation
5. Off side
6. Commissures
7. Hock
8. Foot
9. Soak stall

2. Match the external parts of the foot on the right to the correct definitions. Place the appropriate numbers in the blanks provided.

SIDE VIEW

______a. Area between hoof and fetlock

______b. Tough, horny outer shell which protects sensitive area and supports most of the horse's weight

______c. Area between knee and fetlock

______d. Thick section of tough flesh at the top of the hoof where the skin and hide join with the hoof wall

1. Coronary band
2. Cannon
3. Pastern
4. Perioplic ring
5. Hoof wall
6. Fetlock

_____e. Area that connects pastern and cannon

_____f. Narrow strand of flesh which lies just above the coronary band

BOTTOM VIEW

_____a. Wedge-shaped soft horn structure in the rear of the underside of the hoof

_____b. Undersurface of the hoof located just inside the wall beyond the separation of the white line

_____c. Continuation of the bearing edge of the wall; located behind each quarter of the hoof

_____d. Rear portion of foot that makes contact with ground first when horse is in motion

_____e. Deep grooves on both sides of the frog

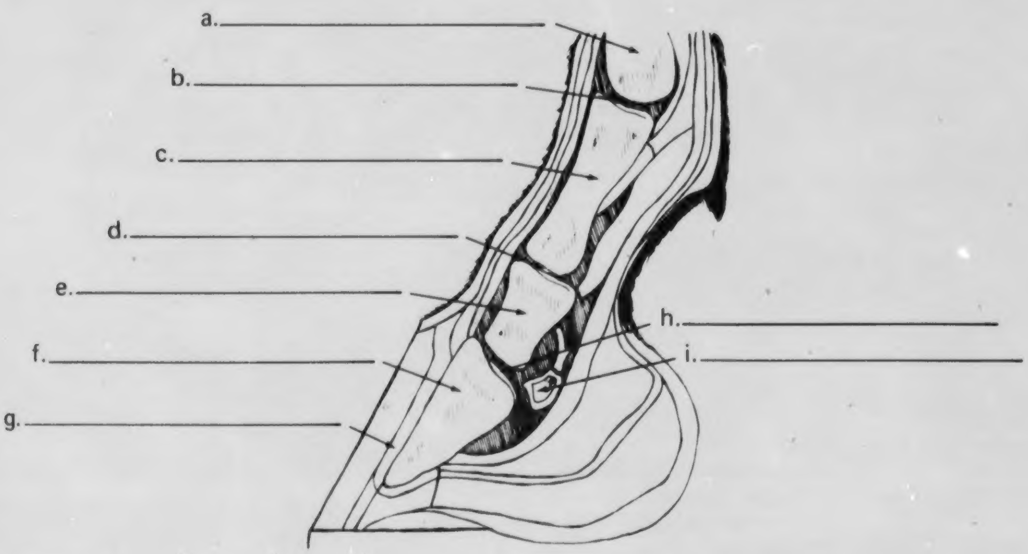
_____f. Thinnest portion of wall halfway around the side of the hoof

_____g. Front of hoof; leaves ground last as horse is in motion

_____h. Rounded edges at the rear that are located at terminaton point of coronary band

1. Quarter
2. Bars
3. Sole
4. Heel
5. Frog
6. Commissures
7. Bulbs
8. Toe

3. Identify internal parts of the foot by writing appropriate names in the spaces provided.



4. Match the parts of the foot to their specific relationships and/or functions by placing the appropriate numbers in the blanks provided.

______a. Give elasticity

______b. Absorbs concussion or jar when the foot strikes the ground

______c. Layer of soft horn which appears at the bottom of the foot between the wall and sole

______d. Provide framework of the foot and facilitate locomotion

______e. Modified vascular tissue that furnishes nutrition to hoof

______f. Help support the foot and keep it open at the heels

______g. Produces periople, the varnish-like substance that covers the outer surface of the wall and seals it from excessive drying

______h. Area of production of horny wall; located at the hair line immediately above the hoof

______i. Protects sensitive inner foot parts from injury by hard objects on the ground

______j. Outer covering that encloses and protects the sensitive parts

______k. Cushions internal parts and aids in traction and blood circulation

1. Bars
2. Four major bones
3. Commissures
4. Sole
5. Frog
6. Elastic structure
7. Hoof wall
8. Coronary band
9. Perioplic ring
10. Corium
11. White line

5. Select from the list below the critical factors in the care of the foot. Place an "X" in the appropriate blanks.

______a. Daily inspection

______b. Correct moisture content

______c. Whether horse is mare or gelding

______d. Conformation

______e. Shoeing

______f. Trimming

______g. Length of time ridden

______h. Hoof wear

______i. Whether animal is shown

6. List four means of maintaining sufficient moisture in the hoof.

   a. ____________________

   b. ____________________

   c. ____________________

   d. ____________________

7. Select from the list below the most common causes of lameness. Place an "X" by the correct answers.

   _____a. Lack of moisture

   _____b. Getting kicked by another horse

   _____c. Disease of the foot

   _____d. Injury

   _____e. Riding too hard

   _____f. Foreign object in hoof

   _____g. Bad shoeing

   _____h. Conformation

   _____i. Poor hoof care

   _____j. Old age

8. Arrange in order the steps for lifting the horse's front and rear legs. Place a "1" in front of the first step, a "2" in front of the second, and so on.

   FRONT

   _____a. Slide hand slowly down inside of leg

   _____b. Touch gently on the neck

   _____c. Handle foot in relaxed manner and horse will relax

   _____d. Approach from near side

   _____e. Keep foot in vertical plane with horse's body to avoid strain

   _____f. Touch on inside of cannon bone below knee for horse to give you its foot

   _____g. Avoid making contact with any other part of horse's body to prevent horse from leaning on you

REAR

______a. Move under foot gently, NEVER straddling rear leg

______b. Use free hand to squeeze gently just below the hock

______c. Wait a few seconds for horse to give you its foot

______d. Handle foot gently, never pulling it out or trying to force horse to give it to you

______e. Rest hand on horse's hip

9. Demonstrate the ability to lift, clean, and check the foot.

(NOTE: If the above activity has not been accomplished prior to the test, ask the instructor when it should be completed.)

FUNDAMENTALS OF FOOT CARE
UNIT IV

ANSWERS TO TEST

1. a. 2
   b. 1
   c. 3
   d. 4
   e. 5
   f. 7
   g. 6
   h. 8
   i. 9

2. SIDE VIEW
   a. 3
   b. 5
   c. 2
   d. 1
   e. 6
   f. 4

   BOTTOM VIEW
   a. 5
   b. 3
   c. 2
   d. 4
   e. 6
   f. 1
   g. 8
   h. 7

3. a. Cannon bone
   b. Fetlock joint
   c. Long pastern
   d. Pastern joint
   e. Short pastern
   f. Coffin bone
   g. Laminae
   h. Coffin joint
   i. Navicular bone

4. a. 3
   b. 6
   c. 11
   d. 2
   e. 10
   f. 1
   g. 9
   h. 8
   i. 4
   j. 7
   k. 5
5. a, b, d, e, f, h
6. Any four of the following:
   a. Allow horse access to wet areas
   b. Apply hoof dressing
   c. Soak stall
   d. Pack with mud
   e. Wrap in wet burlap feed bags
7. a, c, d, f, g, h, i
8.

FRONT		REAR	
a.	3	a.	4
b.	2	b.	2
c.	6	c.	3
d.	1	d.	5
e.	7	e.	1
f.	4		
g.	5		

9. Performance skill evaluated to the satisfaction of the instructor

FOOT PROBLEMS, TRIMMING, AND SHOEING
UNIT V

UNIT OBJECTIVE

After completion of this unit, the student should be able to discuss causes of lameness and their symptoms, describe trimming techniques, and recognize if horse is shod properly. This knowledge will be evidenced by completion of the job sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with foot problems, trimming, and shoeing to the correct definitions.
2. List general situations relating to unsoundness.
3. Match major diseases and injuries causing unsoundness to their definitions.
4. Arrange in order the most common unsoundnesses that result in retiring horses from racing.
5. Describe means of detecting lameness.
6. Distinguish between causes of lameness in which symptoms decrease with use or increase with use.
7. Match the suspected areas of lameness to the correct indications.
8. Identify basic farrier tools.
9. Select from a list considerations when preparing hoof for trimming and/or shoeing.
10. List common faults in preparation of the hoof.
11. Complete a chart on conformation defects of forelegs.
12. Complete chart on conformation defects of hind legs.
13. Select from a list guidelines for effective shoeing.
14. Demonstrate the ability to:
    a. Remove shoe.
    b. Trim foot.

FOOT PROBLEMS, TRIMMING, AND SHOEING
UNIT V

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

- A. Provide students with objective sheet.
- B. Provide students with information sheet.
- C. Make transparencies.
- D. Discuss unit and specific objectives.
- E. Ask farrier to speak to class.
- F. Show film or have display of tools and equipment.
- G. Demonstrate and discuss procedures outlined in job sheets.

  (NOTE: One foot per student is essential, but one horse per student would help in student gaining confidence.)
- H. Give test.

II. Instructional materials:

- A. Objective sheet
- B. Information sheet
- C. Transparency masters
  1. TM 1--Locations of Injuries and Diseases
  2. TM 2--Unsoundnesses of the Front Leg
  3. TM 3--Ideal Conformation of Front and Hind Legs
  4. TM 4--Ideal Angle of Shoulder, Pastern, and Hoof
  5. TM 5--Conformation Faults of Front Legs
  6. TM 6--Conformation Faults of Hind Legs
- D. Job sheets
  1. Job Sheet #1--Remove Shoe
  2. Job Sheet #2--Trim Foot

E. Test

F. Answers to test

III. Unit references:

A. Beaston, Bud. *The Master Farrier.* Sperry, Oklahoma: Oklahoma Farrier's College, 1975.

B. Canfield, D. M. *Elements of Farrier Science.* Albert Lea, Minnesota: Enders Tool Co., Inc., 1968.

C. *Literature and Visuals for 4-H Horse Program.* Chicago: National 4-H Council, 1978.

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E. *Veterinary Encyclopedia for Horsemen.* Grapevine, Texas: Equine Research Publications, 1977.

F. Ensminger, M. E. *Horses and Horsemanship.* Danville, Illinois: Interstate Printers and Publishers, 1977.

G. Adams, O. R. *Lameness in Horses.* Philadelphia, Pennsylvania: Lea and Febiger, 1977.

FOOT PROBLEMS, TRIMMING, AND SHOEING
UNIT V

INFORMATION SHEET

I. Terms and definitions

A. Blemish--Minor conformation fault, either occurring congenitally or caused by an injury, that is considered undesirable, but does not interfere with the horse's soundness

B. Unsoundness--More serious abnormality that affects the serviceability of the horse

C. Palpation--Act of feeling with the hand

D. Stringhalt--Condition characterized by excessive flexing of the hind legs; most easily detected when backing a horse

E. Azoturia (Monday morning sickness)--Condition which occurs when animal is exercised heavily, fed a heavy ration, and then rested a few days while still being fed a heavy ration

F. Patella--Triangular bone situated at the front of the stifle; also called *knee cap*

G. Fibula--Small bone in hind leg located between hock and stifle

H. Scapula--Shoulder blade

I. Sesamoid--Small nodular bone embedded in a tendon or joint capsule

J. Flexor tendon-Tendon at rear of leg which aids in flexing of the leg

K. Lateral cartilage--Pertaining to side or outer surface, usually referred to in foot

L. Ossified--To change or develop into bone

II. General situations relating to unsoundness

A. Poor conformation

B. Improper foot care

C. Nutritional deficiencies

D. Disease

E. Accident and injury

F. Improper shoeing

INFORMATION SHEET

III. Major diseases and injuries causing unsoundness (Transparency 1)

A. Arthritis--Inflammation of a joint

B. Bursitis--Inflammatory reaction within a bursa

C. Sprain--Injury to a ligament resulting from overstress

D. Strain--Damage to a tendon or muscle caused by overuse or overstress

E. Fracture--Breaking or chipping of bone

F. Sweeny--Shrinkage of muscles

G. Capped elbow (shoe boil)--Soft, flabby swelling caused by an irritation at the point of the elbow

H. Capped hock--Soft, flabby swelling caused by an irritation at the point of the hock

I. Bone spavin (jack spavin)--Bony enlargement that appears on the inside and front of the hock

J. Bog spavin--Inflammation or swelling of the soft tissue of the hock

K. Splints--Abnormal bony growths found on the cannon bone usually on inside surface

L. Curb--Fullness due to enlargement of the ligament or tendon at the rear of the leg and below the point of the hock

M. Bowed tendon--Inflammation and enlargement of the flexor tendon at the base of the front cannon

N. Ringbone--Bony growth on the pastern bone generally on the forefoot

O. Side bone--Ossified lateral cartilages immediately above and toward the rear quarter of the hoof head

P. Contracted heels--Heels are pulled together and frog is narrow and sunken

Q. Thoroughpin--Puffy condition in the hollows of the hock that can be identified by movement of the puff, when pressed, to the opposite side of the leg

R. Corn--Bruise to the soft tissue underlying the horny sole of the foot

INFORMATION SHEET

S. Thrush--Disease of the frog

T. Quarter crack--Vertical split in quarter of hoof which extends from coronet downward

U. Bucked shin--Inflammation of bone covering causing a painful swelling on anterior surface of cannon bone

V. Stifled--Upward fixation of the patella

W. Laminitis--Serious ailment of the fleshy laminae

X. Navicular--Inflammation of small navicular bone and bursa of the front foot

Y. Osselets--Inflammation in and around fetlock joints

Z. Quittor--Deep seated running sore at coronet

IV. Most common unsoundnesses that result in retiring horses from racing (Transparency 2)

(NOTE: These are ranked in order as found from a survey of trainers.)

A. Bowed tendon

B. Knee injury

C. Osselet

D. Bucked shin

E. Splint

F. Fractured sesamoid

G. Fractured fibula

H. Quarter crack

V. Means of detecting lameness

A. Visual examination

(NOTE: This should be done after horse has been confined to stall or small area for a period of time.)

1. Observe any swellings, enlargements, or defects in conformation

2. Allow horse to stand; observe if efforts are made to compensate for pain by shifting weight

INFORMATION SHEET

3. Observe characteristics of the gait
    - a. Use trot as most evident gait if location of lameness is not evident
    - b. Observe from a distance
    - c. Observe from three locations: front, side, and rear
    - d. Listen for sounds of feet striking ground; unsound foot strikes ground with less noise
    - e. Watch for nodding of head

      (NOTE: Horse will nod head to lessen weight on lame leg.)

B. Examination by palpation

(NOTE: Start at bottom of foot and make complete examination of limb.)

1. Bottom of foot for injury or contracted heels
2. Hoof wall for excessive dryness, contraction, cracks, and evenness of wear
3. Coronary band for heat
4. Lateral cartilages for calcification
5. Pastern area for temperature and swelling
6. Fetlock joint for areas of pain from pressure, especially over the sesamoid area
7. Cannon bone for splints or bucked shins

C. Hoof tester--Instrument used to apply pressure to sole of foot

D. Local nerve block--Application of local anesthetic to block nerve and relieve pain

(NOTE: This should be administered only by veterinarian.)

E. X-rays--Radiographs to determine if fracture is present or hard swelllings are bony or fibrous in nature

INFORMATION SHEET

VI. Suspicions of lameness as indicated by use

(CAUTION: Even though the symptoms of lameness may lessen, the initial cause is still present and requires treatment.)

A. Causes of lameness in which symptoms decrease with use

(NOTE: The horse will warm out of lameness or the lameness will lessen in intensity.)

1. Arthritic joint
2. Bone spavin
3. Ringbone
4. Stringhalt
5. Navicular
6. Strains of muscle structures or tendons
7. Sprains of ligaments

B. Causes of lameness in which symptoms increase with use

1. Splints
2. Curb
3. Azoturia
4. Worm larvae

(NOTE: Worm larvae will only cause lameness if damage to blood vessels or intestines has occurred.)

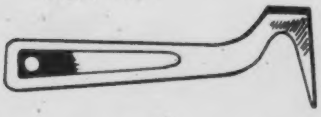
INFORMATION SHEET

VII. Indications of lameness when horse is in motion

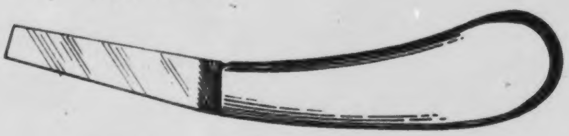
Indication	Suspect
Lameness on hard ground	Feet
Lameness on soft ground	Shoulder or stifle
Nods or drops head when left front foot makes contact with the ground	Right front foot
Nods or drops head when right front foot makes contact with the ground	Left front foot
Nods or drops head when left hind foot makes contact with the ground	Left hind foot
Nods or drops head when right hind foot makes contact with the ground	Right hind foot

VIII. Basic farrier tools

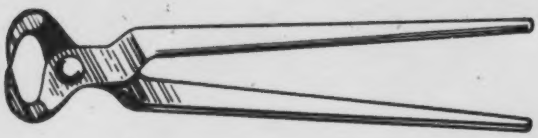
Hoof Pick



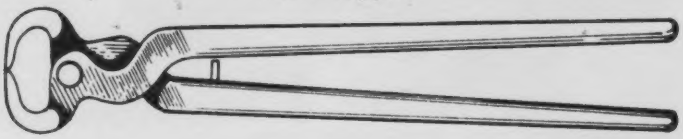
Hoof Knife



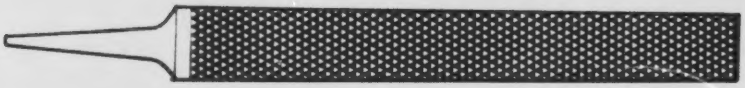
Cutting Nipper



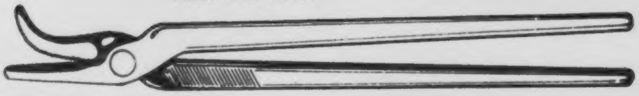
Hoof Nipper



Rasp

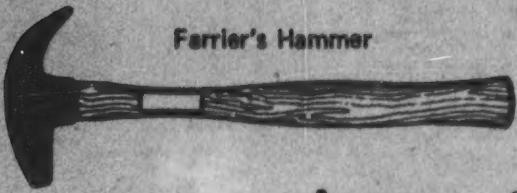


Nail Clincher

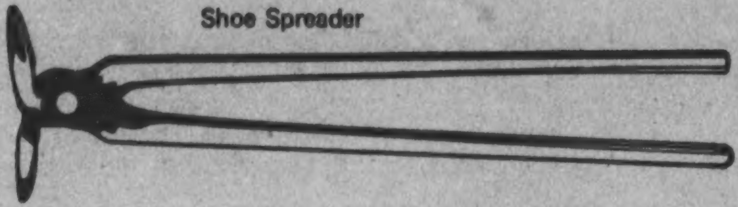


INFORMATION SHEET

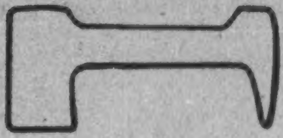
Farrier's Hammer



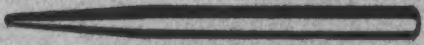
Shoe Spreader



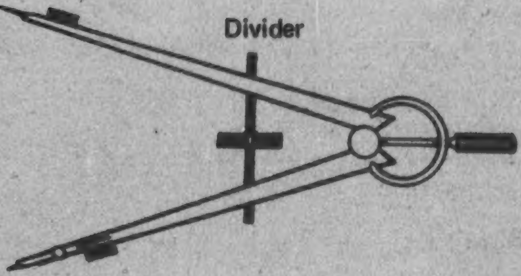
Clinch Cutter



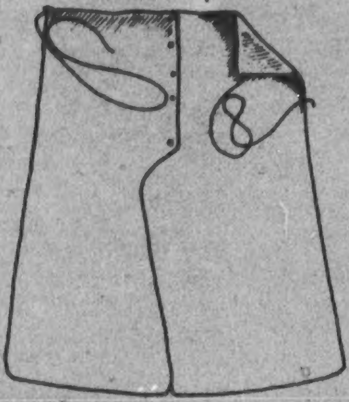
Pritchel



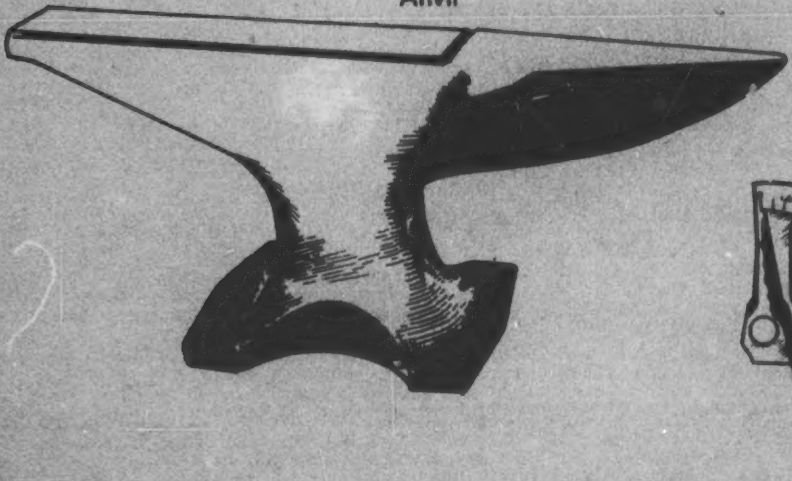
Divider



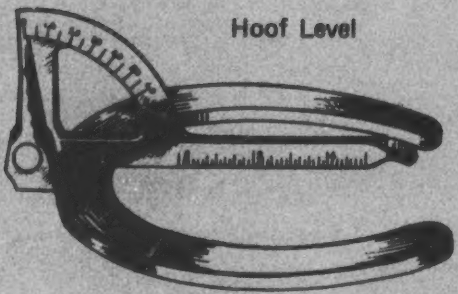
Farrier's Apron



Anvil



Hoof Level



INFORMATION SHEET

IX. Preparing hoof for trimming and/or shoeing

  A. Bones of legs should be in straight line as viewed from front and rear (Transparency 3)

  B. Angle of scapula, pastern, and foot should be the same (Transparency 4)

  (NOTE: General guidelines are for the front angle to be 45-50 degrees and rear angle to be 50-55 degrees.)

  C. Excessive material lodged in foot should be cleaned out with hoof pick and/or hoof knife

  D. Old shoe should be removed if shod

  (CAUTION: Remove carefully to prevent damage to hoof wall.)

  E. Frog should be examined for injury and thrush

  F. Frog should be untouched unless it is so wide that hoof pick cannot be inserted between frog and bars or unless loose jagged ends need trimming

  G. Sole should be trimmed sufficiently with hoof knife to avoid contact with shoe or ground

  H. Hoof wall should be trimmed with hoof nippers

  I. Toe should be reduced to desired length since it is usually longer than other parts of the hoof

  (NOTE: Measure with ruler or divider to insure same length for both feet.)

  J. Hoofs in front and hoofs in rear should be equal pairs

  K. Bottom of foot should be leveled with rasp

  (CAUTION: Gauge should be used to determine how much to remove since this determines angle.)

X. Common faults in preparation of the hoof

  A. Overleveling of the wall

  (NOTE: This includes cutting away too much of the hoof irregularities, resulting in sore feet.)

  B. Cutting away the frog

INFORMATION SHEET

C. Scooping the quarters

D. Shaping the foot

E. Cutting too short

INFORMATION SHEET

XI. Conformation defects of the forelegs (Transparency 5)

Defect	Cause	Effect on Gait	Area Under Strain	Remarks	Horseshoer's Correction
Base-wide	Leg	Wings in, may interfere	Inside of fetlock and pastern	Often splay-footed; feet are outside perpendicular lines drawn from center of each side of chest; inside of hoof shows wear	Lower outside wall, square toe, and put lateral extension on inside
Base-narrow	Leg	Paddles	Outside of fetlock and pastern	Often pigeon-toed; feet are inside perpendicular lines drawn from center of each limb at chest; outside of hoof shows wear	Lower inside wall, square toe, and put lateral extension on outside
Pigeon-toed (toe-narrow or toe-in)	Whole leg or from fetlock down	Paddles	Outside pastern	Correct trimming of colts will prevent worsening of defect; hoof wears on outside	Lower inside wall; watch for contraction, sidebones, and corns on outside heel; square toe and put lateral extension on outside
Splay-footed (toe-wide or toe-out)	Whole leg or from fetlock down	Interference	Inside pastern	Correct trimming of colts will prevent worsening of defect; hoof wears on inside	Lower outside wall; watch for contraction, sidebones, and corns on inside heel; square toe and put lateral extension on inside
Calf-knees	Cannon bone angles forward from knee down		Whole knee area	Horse seldom remains sound under heavy work	None
Bucked-knees	Cannon bone angles back from knee down		Fetlock area	Often present at birth but disappears within six months or less	None
Knock-knees	Congenital or nutritional		Mostly inside knees	See veterinarian	None
Bowlegs	Congenital or nutritional		Mostly inside knees	See veterinarian	None

INFORMATION SHEET

XII. Conformation defects on hind legs (Transparency 6)

Defect	Cause	Effect on Gait	Area Under Strain	Remarks	Horseshoer's Correction
Base-narrow	Legs	Wings out	Outside of bones, ligaments, and joints	Often bowlegged--legs are straight to hock and then bend inward	Lower inside wall; use lateral extension on outside of toe; use trailer on outside branch if feet toe-in
Base wide	Legs	Wings in, may interfere	Inside of bones, ligaments, and joints	Most common form is cow-hocked	Lower outside wall; use lateral extension on inside, but bevel in underneath so it will not cut horse if horse interferes
Cow-hocked	Legs	Wings in	Inside of hock joint	Strain on hock may cause bone spavin; hind legs have tendency to go wide in a sliding stop	Lower outside wall (prevents worsening of defect in young horses); use lateral extension on inside of toe, swelled heel on inside branch
Sickle-hocked	Legs	Shortens stride	Rear of hock	If defect very pronounced, horse will not stand up under hard use--hock comes under great stress--makes horse subject to curb	Lower toe as much as possible; heel calk on inside branch may help if splay-footed
Straight (in back)	Legs		Front of hock	Makes horse subject to bog spavin and stifle; easily injured by heavy work; pasterns will be too straight	Lower heels as much as possible

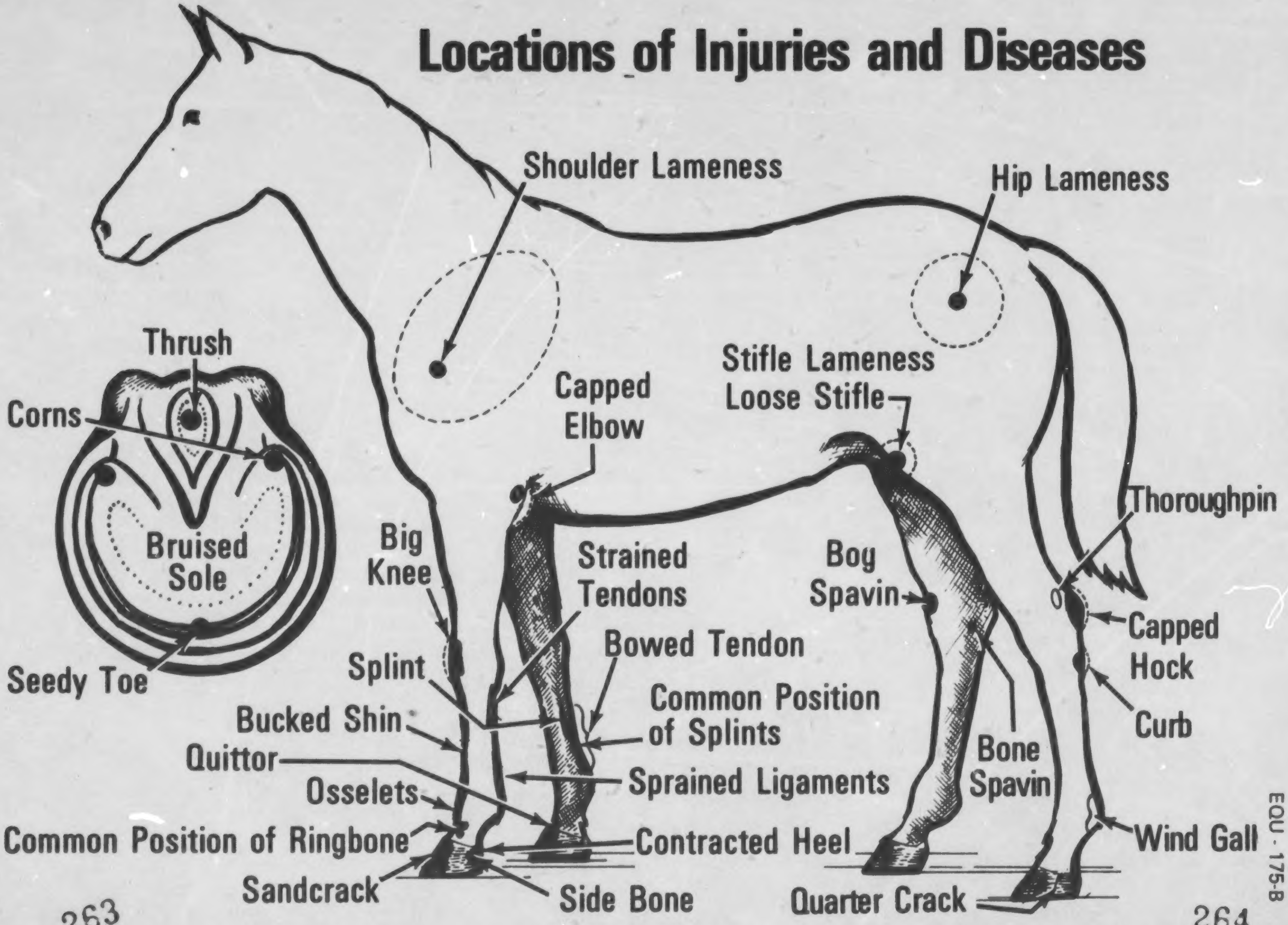
INFORMATION SHEET

XIII Guidelines for effective shoeing

- A. Cut or straighten clinches prior to attempting to remove old shoe
- B. Consider conformation of horse when trimming
- C. Make sure foot is level
- D. Shape shoe to horse's foot, not foot to shoe
- E. Set shoe fully forward to eliminate dubbing of toe
- F. Nail shoe to where clinches are evenly distributed at adequate height
- G. Treat foot for abnormalities if needed

  Example: Hoof dressing for dry feet or treatment for thrush
- H. Reset at approximately six-week intervals depending on individual animal
- I. Make the experience as pleasing as possible for the horse to avoid trouble in the future

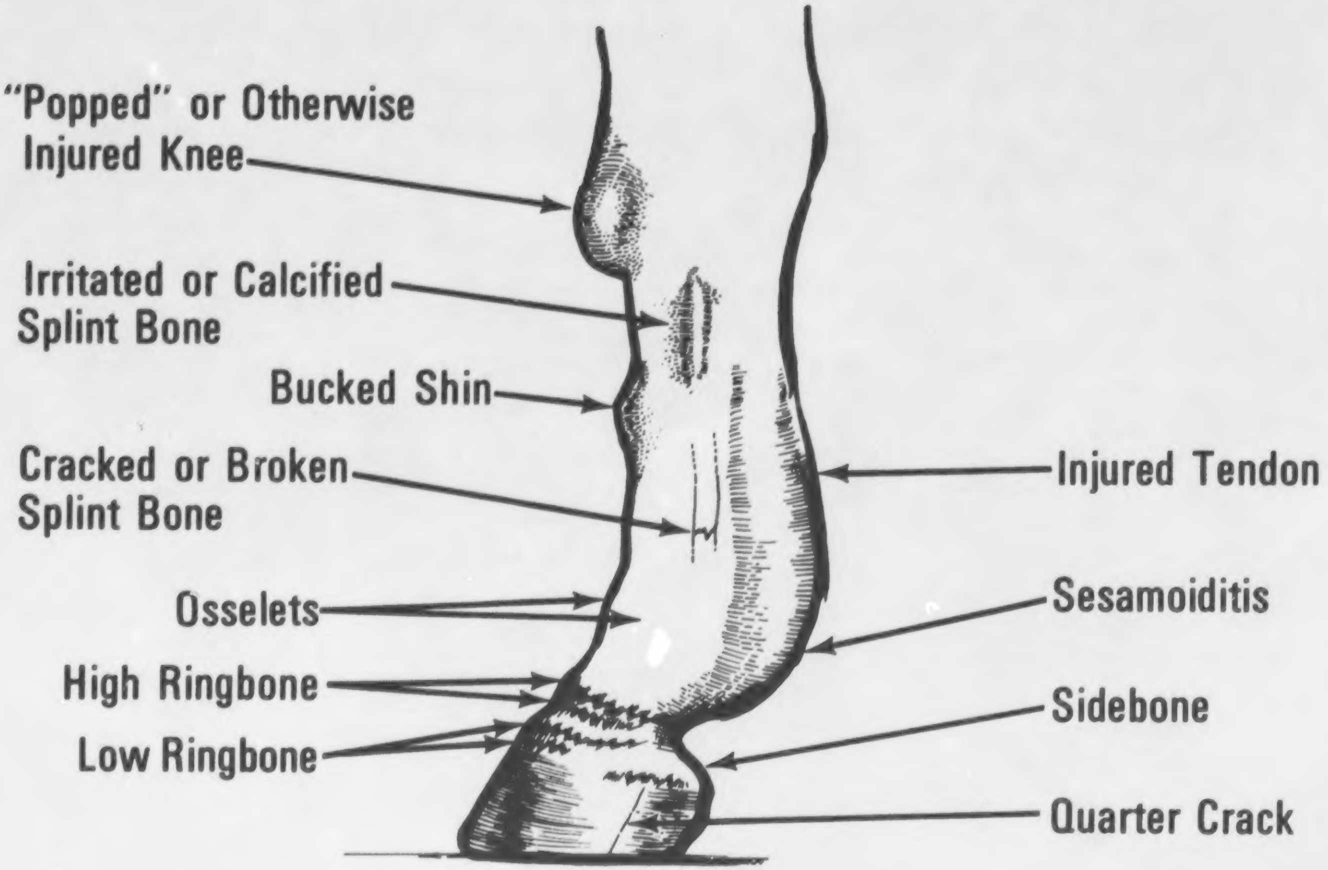
Locations of Injuries and Diseases


Shoulder Lameness
Hip Lameness
Thrush
Corns
Bruised Sole
Seedy Toe
Capped Elbow
Stifle Lameness
Loose Stifle
Big Knee
Strained Tendons
Boy Spavin
Thoroughpin
Capped Hock
Curb
Splint
Bowed Tendon
Bucked Shin
Common Position of Splints
Quittor
Osselets
Sprained Ligaments
Bone Spavin
Common Position of Ringbone
Contracted Heel
Wind Gall
Sandcrack
Side Bone
Quarter Crack

TM 1

EQU - 175-B

Unsoundnesses of the Front Leg


"Popped" or Otherwise Injured Knee
Irritated or Calcified Splint Bone
Bucked Shin
Cracked or Broken Splint Bone
Osselets
High Ringbone
Low Ringbone
Injured Tendon
Sesamoiditis
Sidebone
Quarter Crack

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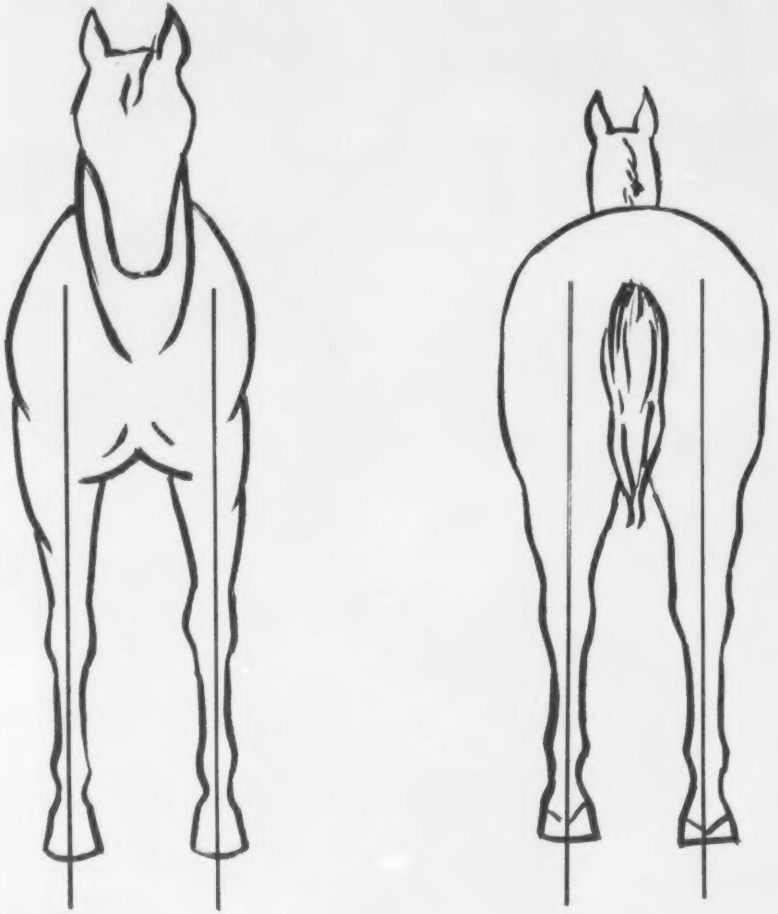
TM 2

EQU - 177-B

Ideal Conformation of Front and Hind Legs



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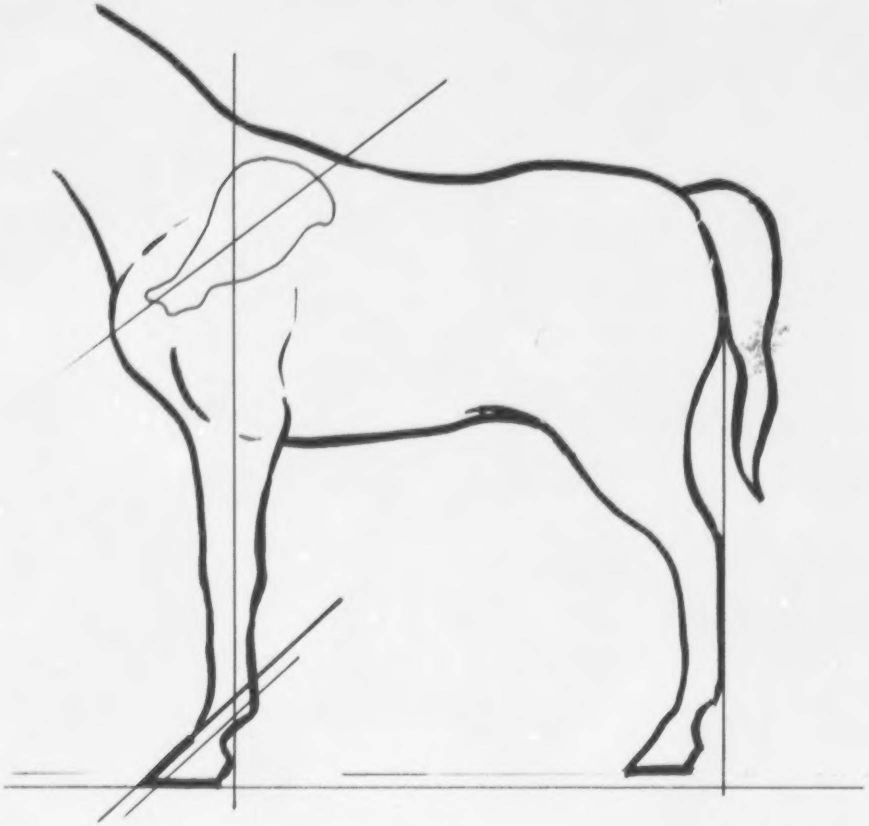
Ideal Angle of Shoulder, Pastern, and Hoof



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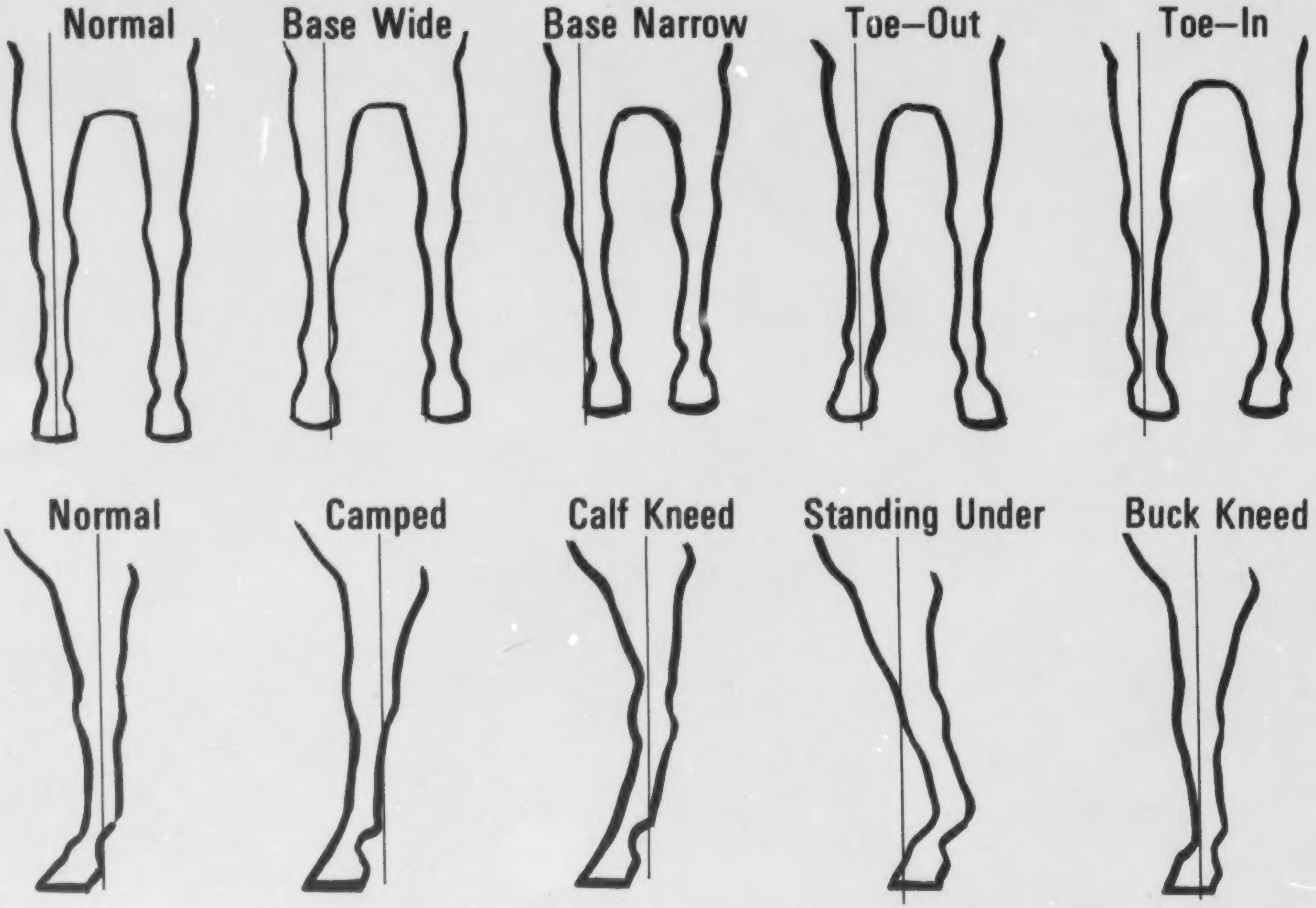
Conformation Faults of Front Legs


Normal
Base Wide
Base Narrow
Toe–Out
Toe–In
Normal
Camped
Calf Kneed
Standing Under
Buck Kneed

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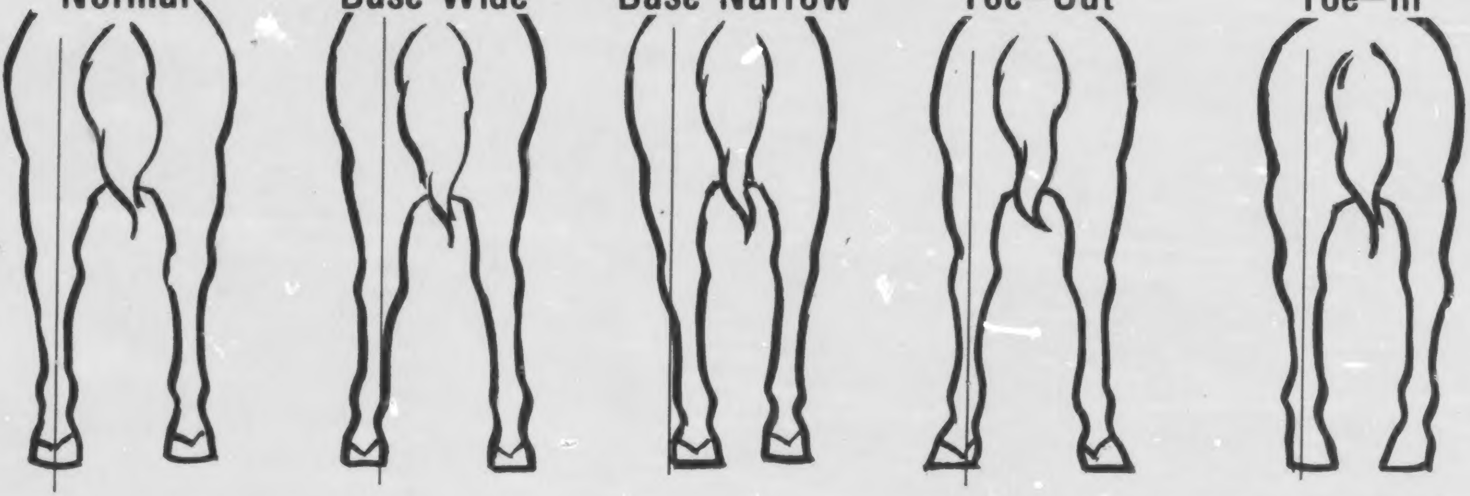
TM 5

EQU - 183-B

Conformation Faults of Hind Legs



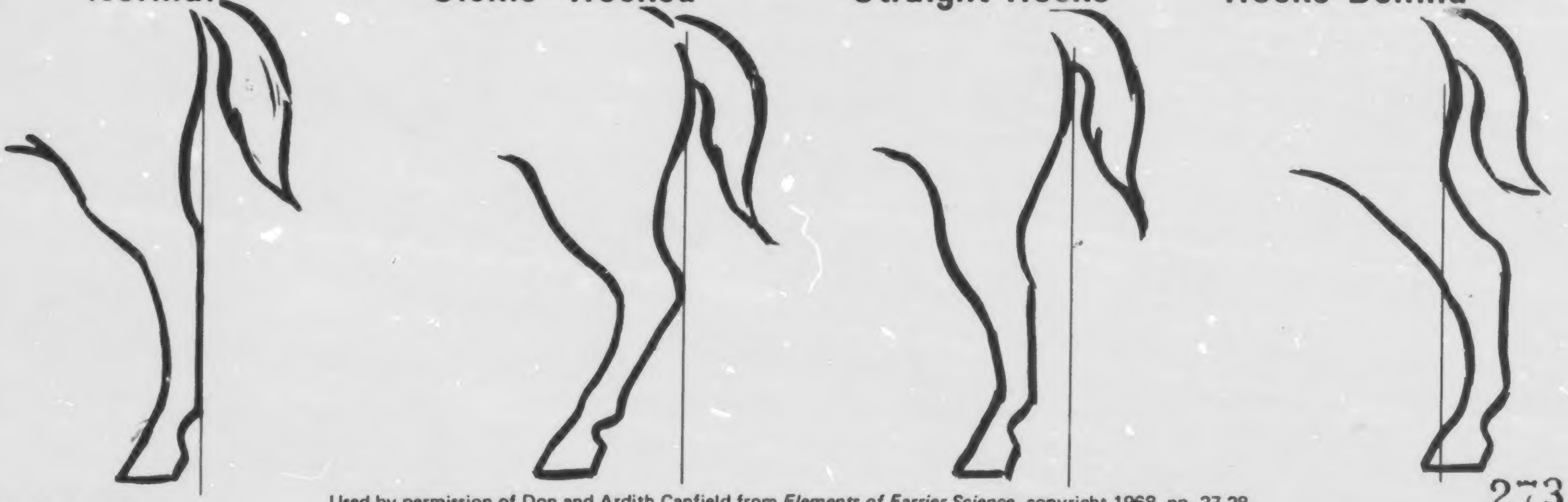
Normal

Base Wide

Base Narrow

Toe–Out

Toe–In



Normal

Sickle–Hocked

Straight Hocks

Hocks Behind

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FOOT PROBLEMS, TRIMMING, AND SHOEING
UNIT V

JOB SHEET #1--REMOVE SHOE

I. Equipment needed

  A. Hoof pick

  B. Clinch cutter

  C. Farrier's hammer

  D. Shoe puller

  (NOTE: Old nippers that are not used for trimming may be used.)

  E. Shod horse

II. Procedure

  A. Lift foot and clean with hoof pick

  B. Straighten clinches with clinch cutter and hammer (Figure 1)

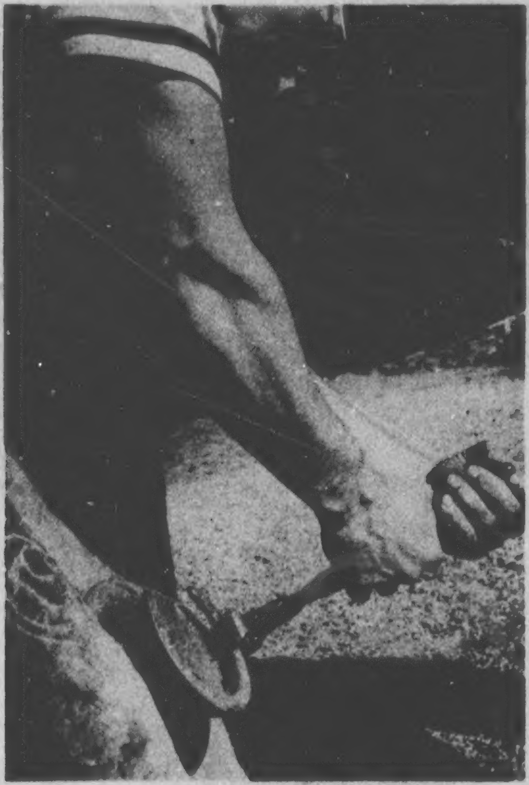
FIGURE 1

JOB SHEET #1

C. Place shoe pullers under the shoe at the heel and push down toward the toe to remove shoe (Figure 2)

(CAUTION: Do not pry to side due to possible injury to tendons.)

FIGURE 2



D. Repeat on opposite heel until shoe is completely free

(NOTE: If this method is difficult, you may complete procedure through Step C and drive the shoe back down on the hoof exposing the nails. Nails then can be pulled out one at a time.)

FOOT PROBLEMS, TRIMMING, AND SHOEING
UNIT V

JOB SHEET #2--TRIM FOOT

I. Equipment needed

- A. Horse with hoofs long enough to trim
- B. Hoof pick
- C. Hoof knife
- D. Hoof nippers
- E. Rasp
- F. Divider
- G. Hoof level
- H. Farrier's apron

(NOTE: A farrier's apron is not essential but would be beneficial.)

II. Procedure

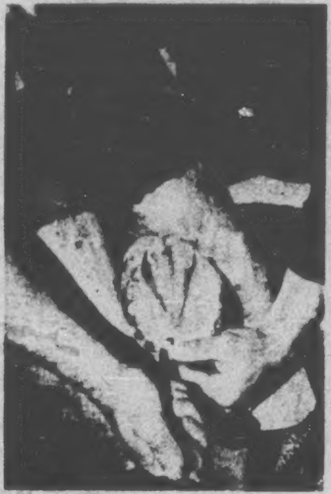
- A. Consider conformation of horse

(NOTE: Review Transparency 4 if in question.)

- B. Lift foot and clean in preparation for trimming
- C. Use hoof knife to remove loose material around bars of the foot (Figure 1)

(NOTE: Do not trim solid part of these structures since they are essential to the support of the hoof.)

FIGURE 1



JOB SHEET #2

D. Trim each side of frog, if needed, just enough to open the seams on each side at the heel of hoof

(CAUTION: Do not lower the frog. This structure should touch the ground when the horse stands on the trimmed foot.)

E. Trim sole to determine how much of hoof wall should be trimmed away

(NOTE: Remove flakey, shelly part of sole only; sensitive area is immediately below.)

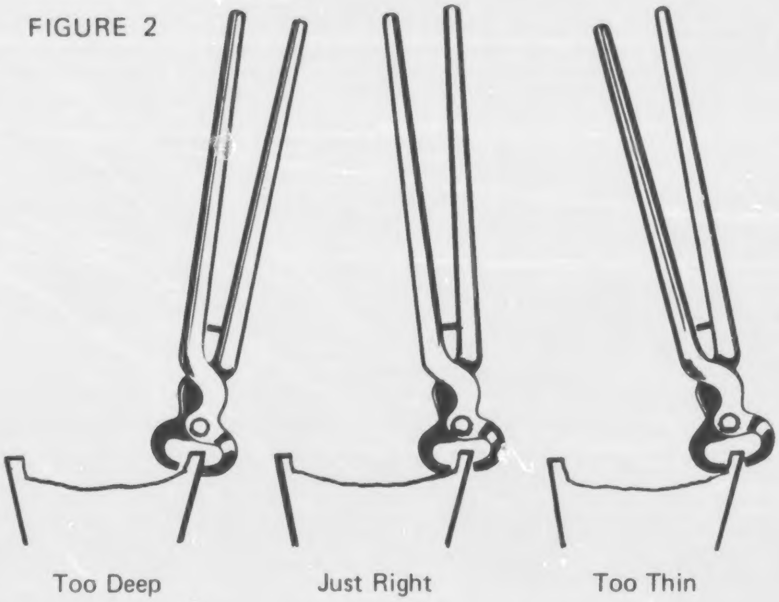
F. Use the hook of the hoof knife to remove dead horn over the white line

(NOTE: This ledge can be used in guiding the jaw of the hoof nipper.)

G. Use the nippers to trim the hoof by beginning at the toe and trimming one side at a time (Figure 2)

(CAUTION: Do not cut too deep at the heels or scoop the quarters.)

FIGURE 2



Too Deep Just Right Too Thin

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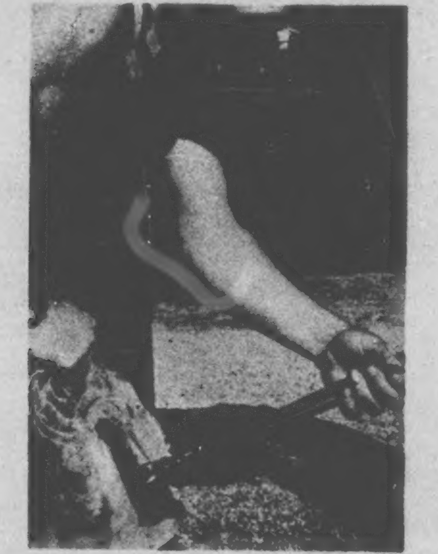
JOB SHEET #2

H. Take half a cut at a time with the nipper, placing the nipper jaw halfway into the old cut and halfway into the uncut wall (Figure 3)

(NOTE: Hoof wall should not be trimmed below level of sole.)

FIGURE 3



I. Use rasp to finish trimming; use two hands and coarse side of rasp and work from center of foot outward (Figure 4)

(NOTE: Make sure to keep pressure equal on all parts of foot.)

FIGURE 4

JOB SHEET #2

J. Use divider to check foot for length (Figure 5)

FIGURE 5

K. Use hoof level to check foot for levelness and angle (Figure 6)

(NOTE: The slope of shoulder and pastern determine angle of hoof. It is very important that both front feet are paired and have the same angle. Hind feet should also be paired and have the same angle.)

FIGURE 6

L. Use the fine side of rasp to round the edges of the hoof wall; remove the sharp edges to about one-fourth the thickness of the wall

(NOTE: This reduces the chances of having pieces of the wall broken out.)

M. Take the hoof knife and lower the sole below the wall to allow weight to be on wall of foot and not on sole

FOOT PROBLEMS, TRIMMING, AND SHOEING
UNIT V

TEST

NAME ________________________________ SCORE ______________

1. Match terms associated with foot problems, trimming, and shoeing to the correct definitions by placing the appropriate numbers in the blanks provided.

_____a. Tendon at rear of leg which aids in flexing of the leg

_____b. Act of feeling with the hand

_____c. To change or develop into bone

_____d. Shoulder blade

_____e. Minor conformation fault, either occurring congenitally or caused by an injury, that is considered undesirable, but does not interfere with the horse's soundness

_____f. Triangular bone situated at the front of the stifle; also called *knee cap*

_____g. Pertaining to side or outer surface, usually referred to in foot

_____h. Small nodular bone embedded in a tendon or joint capsule

_____i. More serious abnormality that affects the serviceability of the horse

_____j. Condition which occurs when animal is exercised heavily, fed a heavy ration, and then rested a few days while still being fed a heavy ration

_____k. Condition characterized by excessive flexing of the hind legs; most easily detected when backing a horse

_____l. Small bone in hind leg located between hock and stifle

1. Blemish
2. Unsoundness
3. Palpation
4. Stringhalt
5. Patella
6. Fibula
7. Scapula
8. Sesamoid
9. Flexor tendon
10. Lateral cartilage
11. Ossified
12. Azoturia (Monday morning sickness)

2. List general situations relating to unsoundness.

   a. ______________________________

   b. ______________________________

   c. ______________________________

   d. ______________________________

   e. ______________________________

   f. ______________________________

3. Match major diseases and injuries causing unsoundness to correct definitions by placing the appropriate numbers in the blanks provided.

______a. Shrinkage of muscles

______b. Inflammation or swelling of the soft tissue of the hock

______c. Injury to a ligament resulting from overstress

______d. Soft, flabby swelling caused by an irritation at the point of the elbow

______e. Inflammation and enlargement of the flexor tendon at the base of the front cannon

______f. Abnormal bony growths found on the cannon bone usually on inside surface

______g. Inflammation of a joint

______h. Breaking or chipping of bone

______i. Inflammatory reaction within a bursa

______j. Soft, flabby swelling caused by an irritation at the point of the hock

______k. Damage to a tendon or muscle caused by overuse or overstress

______l. Bony enlargement that appears on the inside and front of the hock

______m. Fullness due to enlargement of the ligament or tendon at the rear of the leg and below the point of the hock

1. Arthritis
2. Bursitis
3. Sprain
4. Strain
5. Fracture
6. Sweeny
7. Capped elbow (shoe boil)
8. Capped hock
9. Bone spavin (jack spavin)
10. Bog spavin
11. Splints
12. Curb
13. Bowed tendon

______n. Bruise to the soft tissue underlying the horny sole of the foot

______o. Inflammation in and around fetlock joints

______p. Disease of the frog

______q. Upward fixation of the patella

______r. Bony growth on the pastern bone generally on the forefoot

______s. Heels are pulled together and frog is narrow and sunken

______t. Inflammation of small navicular bone and bursa of the front foot

______u. Vertical split in quarter of hoof which extends from coronet downward

______v. Ossified lateral cartilages immediately above and toward the rear quarter of the hoof head

______w. Deep seated running sore at coronet

______x. Inflammation of bone covering causing a painful swelling on anterior surface of cannon bone

______y. Serious ailment of the fleshy laminae

______z. Puffy condition in the hollows of the hock that can be identified by movement of the puff, when pressed, to the opposite side of the leg

14. Quarter crack
15. Quittor
16. Stifled
17. Corn
18. Laminitis
19. Side bone
20. Ringbone
21. Navicular
22. Thoroughpin
23. Osselets
24. Bucked shin
25. Thrush
26. Contracted heels

4. Arrange in order the most common unsoundnesses that result in retiring horses from racing. Place a "1" before the most common, a "2" before the second most common, and so on.

______a. Quarter crack

______b. Bucked shin

______c. Knee injury

______d. Fractured fibula

______e. Osselet

______f. Bowed tendon

______g. Splint

______h. Fractured sesamoid

5. Describe means of detecting lameness.

6. Distinguish between causes of lameness in which symptoms decrease with use or increase with use. Place an "I" in front of causes in which symptoms increase with use and a "D" for causes in which symptoms decrease with use.

_____ a. Curb

_____ b. Ringbone

_____ c. Strains of muscle structures or tendons

_____ d. Arthritic joint

_____ e. Sprains of ligaments

_____ f. Worm larvae

_____ g. Navicular

_____ h. Splints

_____ i. Bone spavin

_____ j. Stringhalt

_____ k. Azoturia

7. Match the suspected areas of lameness on the right to the correct indications. Place the appropriate numbers in the blanks provided.

_____ a. Nods or drops head when right front foot makes contact with the ground

_____ b. Lameness on hard ground

_____ c. Nods or drops head when right hind foot makes contact with the ground

_____ d. Nods or drops head when left front foot makes contact with the ground

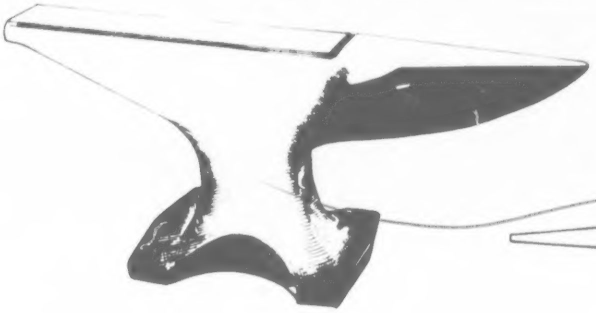
_____ e. Nods or drops head when left hind foot makes contact with the ground

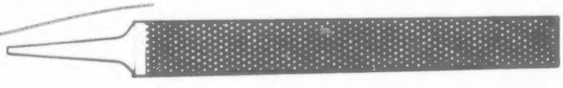
_____ f. Lameness on soft ground

1. Left front foot
2. Right hind foot
3. Feet
4. Right front foot
5. Shoulder or stifle
6. Left hind foot

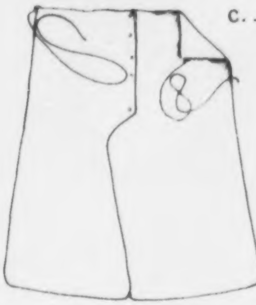
8. Identify the basic farrier tools shown in the drawings below and on the next page by writing the correct names in the blanks provided.

a. ______________________________

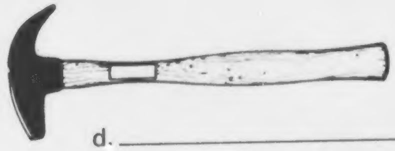




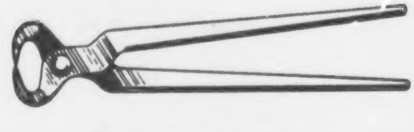
b. ______________________________



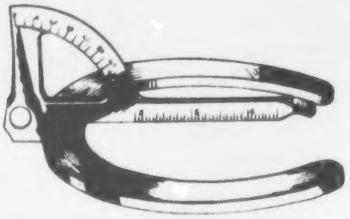
c. ______________________



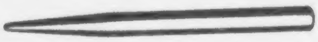
d. ______________________



e. ______________________

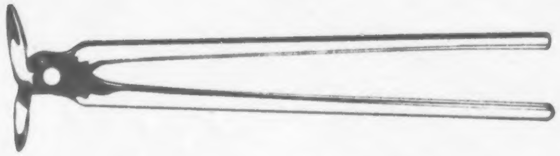


f. ______________________

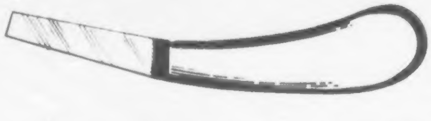


g. ______________________

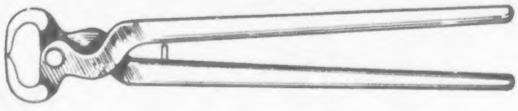
h. ______________________



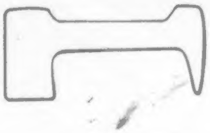
i. ______________________



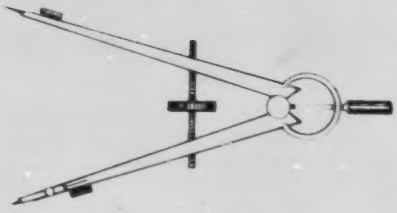
j. ______________________



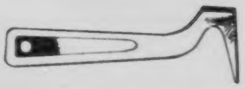
k. ______________________



l. ______________________



m. ____________________



n. ____________________

9. Select from the list below considerations when preparing hoof for trimming and/or shoeing by placing an "X" in the appropriate blanks.

______a. Frog should be trimmed with hoof nippers

______b. Angle of scapula, pastern, and foot should be the same

______c. Old shoe should be removed if shod

______d. Hoofs in front and hoofs in rear should be in a ratio of 2:1

______e. Toe should be reduced to desired length since it is usually longer than other parts of the hoof

______f. Bottom of foot should be leveled with rasp

______g. Sole should be trimmed with rasp to avoid contact with ground

______h. Frog should be examined for injury and thrush

______i. Excessive material lodged in foot should be cleaned out with hoof pick and/or hoof knife

______j. Bones of legs should be in straight line as viewed from front and rear

10. List common faults in preparation of the hoof.

a. ____________________

b. ____________________

c. ____________________

d. ____________________

e. ____________________

11. Complete the chart below on conformation defects of forelegs. Write the appropriate information in the blanks provided.

Defect	Cause	Effect on Gait	Area Under Strain	Remarks	Horseshoer's Correction
Base-wide	a. ________	Wings in, may interfere	Inside of fetlock and pastern	Often splay-footed; feet are outside perpendicular lines drawn from center of each side of chest; inside of hoof shows wear	Lower outside wall, square toe, and put lateral extension on inside
Base-narrow	Leg	b. ________	Outside of fetlock and pastern	Often pigeon-toed; feet are inside perpendicular lines drawn from center of each limb at chest; outside of hoof shows wear	Lower inside wall, square toe, and put lateral extension on outside
c. ________ ________ ________	Whole leg or from fetlock down	Paddles	Outside pastern	Correct trimming of colts will prevent worsening of defect; hoof wears on outside	Lower inside wall; watch for contraction, sidebones, and corns on outside heel; square toe and put lateral extension on outside
Splayfooted (toe-wide or toe-out)	Whole leg or from fetlock down	Interference	Inside pastern	d. ________ ________ ________ ________ ________ ________ ________	Lower outside wall; watch for contraction, sidebones, and corns on inside heel; square toe and put lateral extension on inside

Defect	Cause	Effect on Gait	Area Under Strain	Remarks	Horseshoer's Correction
Calf-knees	Cannon bone angles forward from knee down		e. ____________ ____________ ____________	Horse seldom remains sound under heavy work	None
Bucked-knees	Cannon bone angles back from knee down		Fetlock area	Often present at birth but disappears within 6 months or less	None
Knock-knees	Congenital or nutritional		Mostly inside knees	f. ____________	None
Bowlegs	Congenital or nutritional		Mostly inside knees	See veterinarian	None

12. Complete the chart below on conformation defects on hind legs by writing the appropriate information in the blanks provided.

Defect	Cause	Effect on Gait	Area Under Strain	Remarks	Horseshoer's Correction
Base-narrow	Legs	Wings out	Outside of bones, ligaments, and joints	a. ______________	Lower inside wall; use lateral extension on outside of toe; use trailer on outside branch if feet toe-in
b. __________	Legs	Wings in, may interfere	Inside of bones, ligaments, and joints	Most common form is cow-hocked	Lower outside wall; use lateral extension on inside, but bevel in underneath so it will not cut horse if horse interferes
Cow-hocked	c. ______________	Wings in	Inside of hock joint	Strain on hock may cause bone spavin; hind legs have tendency to go wide in sliding stop	Lower outside wall (prevents worsening of defect in young horses); use lateral extension on inside of toe, swelled heel on inside branch
Sickle-hocked	Legs	Shortens stride	d. ______________	If defect very pronounced, horse will probably not stand up under hard use--hock comes under great stress--makes horse subject to curb	Lower toe as much as possible; heel calk on inside branch may help if splay-footed
Straight (in back)	Legs		Front of hock	Makes horse subject to bog spavin and stifle; easily injured by heavy work; pasterns will be too straight	e. ______________

13. Select from the list below guidelines for effective shoeing by placing an "X" in the appropriate blanks.

______a. Treat foot for abnormalities if needed

______b. Shape horse's foot to shoe

______c. Make sure foot is at a 45° angle while shoeing

______d. Consider conformation of horse when trimming

______e. Make the experience as pleasing as possible for the horse to avoid trouble in the future

______f. Reset at one-week intervals

______g. Cut or straighten clinches prior to attempting to remove old shoe

______h. Set shoe fully forward to eliminate dubbing of toe

14. Demonstrate the ability to:

a. Remove shoe.

b. Trim foot.

(NOTE: If the above activities have not been accomplished prior to the test, ask your instructor when they should be completed.)

FOOT PROBLEMS, TRIMMING, AND SHOEING
UNIT V

ANSWERS TO TEST

1. a. 9
   b. 3
   c. 11
   d. 7
   e. 1
   f. 5
   g. 10
   h. 8
   i. 2
   j. 12
   k. 4
   l. 6

2. a. Poor conformation
   b. Improper foot care
   c. Nutritional deficiencies
   d. Disease
   e. Accident and injury
   f. Improper shoeing

3. a. 6
   b. 10
   c. 3
   d. 7
   e. 13
   f. 11
   g. 1
   h. 5
   i. 2
   j. 8
   k. 4
   l. 9
   m. 12
   n. 17
   o. 23
   p. 25
   q. 16
   r. 20
   s. 26
   t. 21
   u. 14
   v. 19
   w. 15
   x. 24
   y. 18
   z. 22

4. a. 8
   - b. 4
   - c. 2
   - d. 7
   - e. 3
   - f. 1
   - g. 5
   - h. 6

5. a. Visual examination
   1) Observe any swellings, enlargements, or defects in conformation
   2) Allow horse to stand; observe if efforts are made to compensate for pain by shifting weight
   3) Observe characteristics of the gait
      a) Use trot as most evident gait if location of lameness is not evident
      b) Observe from a distance
      c) Observe from three locations: front, side, and rear
      d) Listen for sounds of feet striking ground; unsound foot strikes ground with less noise
      e) Watch for nodding of head

   b. Examination by palpation
   1) Bottom of foot for injury or contracted heels
   2) Hoof wall for excessive dryness, contraction, cracks, and evenness of wea
   3) Coronary band for heat
   4) Lateral cartilages for calcification
   5) Pastern area for temperature and swelling
   6) Fetlock joint for areas of pain from pressure, especially over the sesamoid area
   7) Cannon bone for splints or bucked shins

c. Hoof tester--Instrument used to apply pressure to sole of foot

d. Local nerve block--Application of local anesthetic to block nerve and relieve pain

e. X-rays--Radiographs to determine if fracture is present or hard swellings are bony or fibrous in nature

6. a. I
   b. D
   c. D
   d. D
   e. D
   f. I
   g. D
   h. I
   i. D
   j. D
   k. I

7. a. 1
   b. 3
   c. 2
   d. 4
   e. 6
   f. 5

8. a. Anvil
   b. Rasp
   c. Farrier's apron
   d. Farrier's hammer
   e. Cutting nipper
   f. Hoof level
   g. Pritchel
   h. Nail clincher
   i. Shoe spreader
   j. Hoof knife
   k. Hoof nipper
   l. Clinch cutter

m. Divider

n. Hoof pick

9. b, c, e, f, h, i, j

10. a. Overleveling of the wall

b. Cutting away the frog

c. Scooping the quarters

d. Shaping the foot

e. Cutting too short

11. a. Leg

b. Paddles

c. Pigeon-toed (toe-narrow or toe-in)

d. Correct trimming of colts will prevent worsening of defect; hoof wears on inside

e. Whole knee area

f. See veterinarian

12. a. Often bowlegged--legs are straight to hock and then bend inward

b. Base-wide

c. Legs

d. Rear of hock

e. Lower heels as much as possible

13. a, d, e, g, h

14. Performance skills evaluated to satisfaction of instructor

PRACTICAL HORSE NUTRITION
UNIT I

UNIT OBJECTIVE

After completion of this unit, the student should be able to identify parts of the digestive system, explain characteristics of feedstuffs, and select factors affecting proper nutrition. This knowledge will be evidenced by completion of the assignment sheet and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with practical horse nutrition to the correct definitions.
2. Identify parts of digestive system.
3. Complete diagram concerning size and capacity of components of digestive system.
4. Match parts of digestive system to their correct descriptions and functions.
5. Name types of nutrients and their purposes.
6. Name functions of nutrients supplied by feed.
7. Select from a list factors affecting digestion.
8. Distinguish between classifications of feeds.
9. Select from a list regulations and conditions that directly affect quantity of feed.
10. Select from a list metabolic disorders directly attributed to feeding.
11. Classify symptoms of nutritional deficiencies as protein, mineral, vitamin, or carbohydrate deficiencies.
12. Discuss factors to consider in selection of commercial feeds.
13. Complete a chart on suggested daily ration for horse that will mature at 1100 pounds.
14. Balance ration for horse with particular circumstances.

PRACTICAL HORSE NUTRITION
UNIT I

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information and assignment sheets.

   C. Discuss unit and specific objectives.

   D. Discuss information and assignment sheets.

   E. Assist students in balancing ration.

   F. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Assignment Sheet #1--Balance Ration for a Horse

   D. Answers to assignment sheet

   E. Test

   F. Answers to test

III. Unit references:

   A. Ensminger, M. E. *Horses and Horsemanship.* 5th ed. Danville, Illinois: Interstate Printers and Publishers, 1977.

   B. *Veterinary Encyclopedia for Horsemen.* Grapevine, Texas: Equine Research Publications, 1977.

   C. *Veterinary Treatments and Medications for Horsemen.* Grapevine, Texas: Equine Research Publications, 1977.

V. Additional materials:

   A. University of Kentucky, Cooperative Extension Service. *Horse Science: 4-H Horse Program.* Chicago: National 4-H Service Committee, Inc., 1965.

   B. *Nutrient Requirements of Horses.* rev. ed. Washington, D. C.: National Academy of Sciences, 1978

PRACTICAL HORSE NUTRITION
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Ration--Feed allowed for a given animal during a day of 24 hours, whether it be fed at one time or in portions at different times

B. Balanced ration--Feed that furnishes the necessary nutrients in such proportion and amount as will properly nourish a given animal for a 24-hour period

C. Nutrient--Applies to any food constituent or group of food constituents of the same general chemical composition that aid in the support of life

D. Feedstuffs--Nutrients which are taken into the digestive system

E. Mastication--Chewing

F. Chyme--Semifluid mass of partly digested food expelled by the stomach into the small intestine

G. Carbohydrates--Sugars and starches in feeds used for energy

H. Fats--Similar to carbohydrates, but contain higher percentage of chemical compounds, thus yielding 2.25 times more energy than carbohydrates

I. Protein--Any group of complex compounds which contain nitrogen and are composed of amino acids

J. Vitamin--Essential organic nutrient which is required in only a small amount

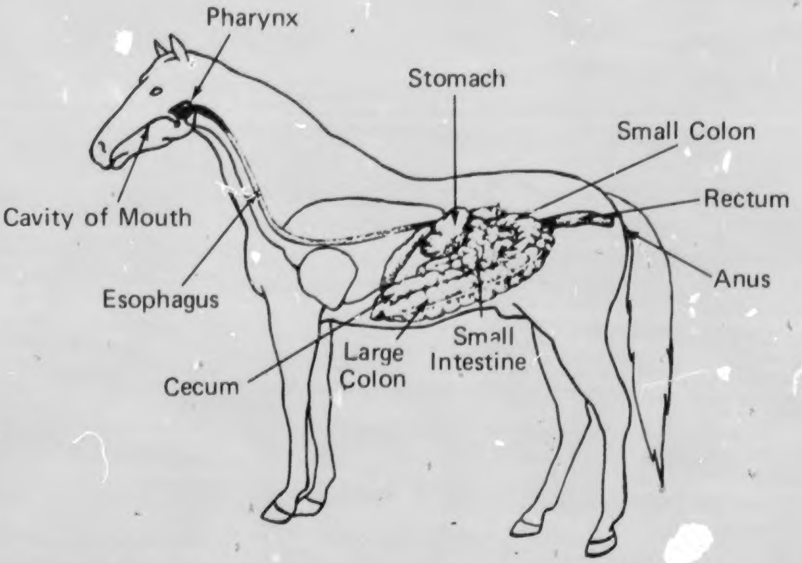
K. Minerals--Inorganic matter which aids in skeletal growth and chemical reactions

L. Epiphysitis--Inflammation of growth plates at ends of long bones; occurs mostly in knees of one- and two-year-olds

M. Rickets--Abnormal bone growth caused by Vitamin D deficiency

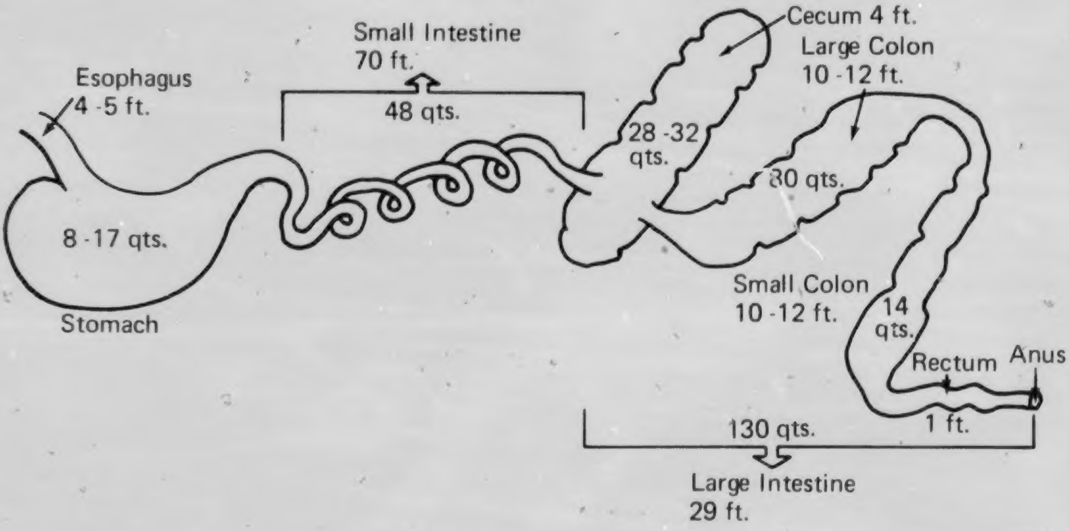
INFORMATION SHEET

II. Parts of digestive system


Pharynx
Stomach
Small Colon
Rectum
Cavity of Mouth
Anus
Esophagus
Small Intestine
Large Colon
Cecum

Used by permission of Equine Research Publications from *Illustrated Veterinary Encyclopedia for Horsemen* by Research Staff of Equine Research Publications, copyright 1977, p. 485.

III. Size and capacity of components of digestive system


Small Intestine
70 ft.
48 qts.
Esophagus
4 -5 ft.
8 -17 qts.
Stomach
Cecum 4 ft.
Large Colon
10 -12 ft.
28 -32
qts.
30 qts.
Small Colon
10 -12 ft.
14
qts.
Rectum
Anus
1 ft.
130 qts.
Large Intestine
29 ft.

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INFORMATION SHEET

IV. Descriptions and functions of the digestive system

- A. Mouth--Chewing mechanism; secretes saliva to act as a digestive juice and to lubricate food for swallowing
- B. Pharynx--Muscular passage which separates mouth from esophagus
- C. Esophagus--Tube providing passage of food from pharynx to stomach
- D. Stomach--J-shaped muscular sac between esophagus and small intestine that secretes gastric juices by which proteins and fats are broken down
- E. Small intestine--Provides further breakdown of proteins, fats, and sugars which have escaped breakdown by gastric juices
- F. Cecum--Contains mostly fluids; results in breaking down chyme, which forms fatty acids and some vitamins

  (NOTE: The cecum, large colon, small colon, and rectum form the large intestine.)
- G. Large colon--Contains semifluid for digestion, mostly by bacterial fermentation and absorption
- H. Small colon--Contains relatively solid materials which are formed into balls of dung
- I. Rectum--Holds waste material until passed out of horse's body through anal opening

V. Types of nutrients and their purposes

(NOTE: All are essential and equally important.)

- A. Carbohydrates and fats--Supply energy
- B. Proteins--Composed of units called *amino acids* which are used as building blocks to develop body tissue
- C. Vitamins--Essential for normal body functions
- D. Minerals--Aid in skeletal growth and chemical reactions
- E. Water--Used for body's chemical reactions, to regulate body heat, and as a lubricant

VI. Functions of nutrients supplied by feed

- A. Growth
- B. Maintenance

INFORMATION SHEET

- C. Fuel to maintain body temperature
- D. Energy for vital body functions
- E. Energy for work
- F. Development of young
- G. Production of milk

VII. Factors affecting digestion

- A. Processing of feeds
- B. Level of intake
- C. Frequency of feeding
- D. Individuality
- E. Amount and type of work
- F. Time of watering

VIII. Classifications of feeds

- A. Concentrates
  1. Corn
  2. Oats
  3. Barley
  4. Milo
  5. Protein supplements

     Examples: Soybean meal, cottonseed meal, linseed meal
- B. Roughages
  1. Green (pastures)
  2. Dry (hay)

IX. Regulations and conditions that directly affect quantity of feed

- A. Individuality
- B. Kind of work performed
- C. Maturity, size, and physical condition

INFORMATION SHEET

D. Season of year

E. Quality of feed

F. Health and temperament of horse

X. Metabolic disorders directly attributed to feeding

A. Colic

B. Founder

C. Anemia

D. Azoturia

E. Heaves

F. Vitamin deficiency

G. Mineral deficiency

H. Protein deficiency (quality/quantity) in young horses

I. Malnutrition in lactating mare

XI. Symptoms of nutritional deficiencies

NUTRIENT	DEFICIENCY SYMPTOMS
Protein	Slower growth Poorer feed efficiency Less muscle expression Shorter mane and tail Rough hair coat Pot-bellied
Mineral	Rickets Epiphysitis Unsoundness (especially under stress) Delayed bone maturity Wood chewing
Vitamins	Impaired vision Respiratory disorders Uncoordination Enlarged joints Weakness Reproduction problems
Carbohydrates (energy)	Loss of weight Lack of energy

INFORMATION SHEET

XII. Factors to consider in selection of commercial feeds

(CAUTION: Urea may be toxic to horses.)

A. Reputation of manufacturer

B. Requirements of horse

Examples: Age, use, growth, maintenance

C. Flexibility of commercial mixtures

Example: Pregnant mares and horses at light work may be fed the same commercial mixture to meet the nutritional requirements of each

D. Analysis of tag

1. Brand
2. Net weight
3. Guaranteed analysis

   (NOTE: Listings are minimums and maximums and many variables, such as protein quality, need to be considered.)

4. Ingredients

   (NOTE: The group of listings under *ingredients* only states what is present, not the amounts.)

5. Name, address, and phone number of manufacturer

INFORMATION SHEET

6. Feeding directions

(BRAND X)

(Net Weight 50 pounds)

GUARANTEED ANALYSIS

Crude Protein, not less than	21.00%
Crude Fat, not less than	2.00%
Crude Fiber, not more than	9.00%
Ash, not more than	9.00%
Added Mineral, not more than	3.00%
Calcium, not less than	1.00%
Phosphorus, not less than	.75%
Salt, not more than	.50%
Iodine, not less than	.00035%
TDN, not less than	68.00%

Ingredients: Rolled Oats, Dried Whey, Soybean Meal, Cottonseed Meal, Linseed Meal, Dehydrated Alfalfa Meal, Wheat Bran, Wheat Shorts, Wheat Flour, Cane Molasses, Bone Meal, Iodized Salt, Distillers Dried Grains with Solubles, Alfalfa Leaf Meal, Condensed Fish Solubles (Dried), Brewers Dried Yeast, Streptomycin Mycelia Meal, Vitamin A Palmitate with Increased Stability, Fleischman's Irradiated Dry Yeast (Source of Vitamin D-2), d-Alpha-Tocopherol Acetate (Source of Vitamin E), Choline Chloride, Ferrous Carbonate, Niacin, Calcium Pantothenate (Source of d-Pantothenic Acid), Riboflavin Supplement, Copper Oxide, Manganous Oxide, Thiamine, Sulphur, Menadione Sodium Bisulfate (Source of Vitamin K), Calcium Iodate, Folic Acid, Cobalt Carbonate, Vitamin B-12 Supplement, Preserved with Ethoxyquin (1, 2-dihydro-6-ethoxy-2, 2, 4-trimethylquinoline), Anise.

FEEDING DIRECTIONS
SEE OTHER SIDE

Manufactured by
ADAIR MILLING COMPANY
(Address and Phone Number)

(BRAND X)

FEEDING DIRECTIONS

	Lbs. daily/100 lbs. weight/foal
Before weaning	1/2 - 1
After weaning	1 1/4 - 1 1/2

Plus pasture or hay

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INFORMATION SHEET

XIII. Suggested daily ration for horse that will mature at 1100 pounds

Description	% Digestible Protein	Weight	Lbs Grain	Lbs Hay	Total Lbs Feed
Weanling	17	525	7.0	5	12.9
Yearling	14	725	7.5	7	14.5
Two-year-old	11	990	8.0	9	17
Pregnant mare	10	1100	6.0	12	18
Lactating mare	12	1100	16.5	17	33.5
Mature horse (idle)	8	1100	None	17	17
Mature horse (light work)	10	1100	4.5	16	20.5
Mature horse (medium work)	10	1100	9.0	14	23.0
Mature horse (heavy work)	10	1100	15.0	11	25.0
Breeding stallion	12	1100	12.0	12	23.0

XIV. Balancing ration for a horse (Assignment Sheet #1)

A. Balancing a ration for protein using the Pearson's square method

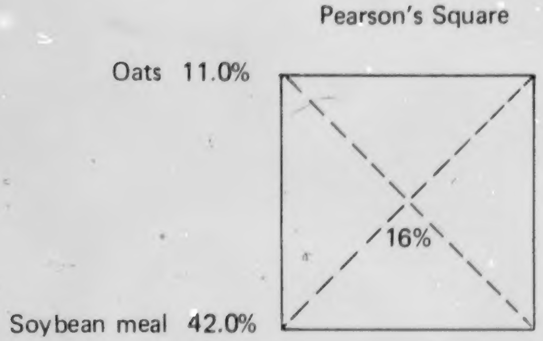
1. Draw a square with diagonal dotted lines
2. Place the desired protein level of the concentrate ration in the center of the square
3. Place the percentage protein of the two feeds being used at the left-hand corners of the square

   (NOTE: Percent protein of grain or average percentage of grains should be in one corner and protein supplement in the other corner.)
4. Subtract smaller percentage from larger following the dotted lines
5. Look for the results, directly across the square, which indicate the number of parts of each feed needed in the ration to balance it
6. Total the parts of feed needed

INFORMATION SHEET

7. Divide total parts into grain and protein parts to get the respective percentage of each (round off to nearest percentage)

Example:



Parts	Percentage
26 parts of grain	84%
5 parts of protein supplement	16%
31	100% ration

B. Procedure for balancing a ration

1. Determine the age, weight, and type of work horse is doing
2. Fill in Section 3 of worksheet from Table 1: Daily Nutrient Requirements of Horses
3. Select available or desired feeds and list in Section 1 of worksheet, giving attention to each column

   (NOTE: It is best to have actual analysis of feeds used, but if not available, take figures from Table 2: Average Nutrient Content of Feeds.)
4. Balance ration for protein by using the Pearson's square method
5. Select the proportions of grain and hay you wish to feed
6. Multiply each figure in Section 1 by the pounds fed daily (Section 2, column 1); record the results in the appropriate columns of Section 2 on worksheet
7. Add the columns in Section 2

   (NOTE: This gives the total amount of each nutrient in horse's ration.)

INFORMATION SHEET

8. Check these totals against the "Daily Nutrient Requirements" listed in Section 3 of worksheet

   (NOTE: If the "requirement" is more than the totals in your ration, you will know that your ration is inadequate. Your next step is to find a feed ingredient that is a good source of the deficient nutrient and either substitute this new feedstuff for what you are now using or add this new ingredient to your horse ration. Refigure totals and check other nutrients to insure requirements are in acceptable range.)

INFORMATION SHEET

BALANCING HORSE RATIONS - WORK SHEET

Animal Mature Horse Weight 1050 Age 7 Work Classification Medium 3-5 hours riding daily

Section 1 **Composition of Feeds**

Feed	Digestible Protein %	T.D.N. %	Calcium grams per lb.	Phosphorus grams per lb.	Vitamin A International Units per lb. of feed
Timothy	4.6	51.0	1.04	0.91	4000
Barley	10.6	80.0	0.41	2.13	—
Soybean Meal	42.0	78.0	1.27	2.77	—
Molasses	—	53.7	3.35	0.36	—

Section 2 **Quantity of Nutrients in Feeds Being Used**

EXAMPLE

Feed	Lbs. fed	Digestible Protein lbs.	T.D.N. lbs.	Calcium gm.	Phosphorus gm.	Vitamin A I.U.
Timothy	12	0.55	6.1	12.5	10.9	48000
Barley	4.7	0.50	3.8	1.9	10.0	—
Soybean Meal	.3	.13	.2	.4	.8	
Total	17	1 8	10.1	14.6	21.6	48000

Section 3 **Daily Nutrient Requirements**
(Based on air-dry feed containing 90 percent dry matter)

Size and Use of Horse	Lbs. fed	Digestible Protein lbs.	T.D.N. lbs.	Calcium gm.	Phosphorus gm.	Vitamin A I.U.
1050# Med. Work	19 to 20	0.9 to 1.1	11.0 to 14.0	24.0	21.0	18000

Section 4 **Balancing Ration and Meeting Requirements**

Total from Section 2	17	1. 8	10.1	14.	21.	48000
Ration deficiency	to 3	—	0.9 to 3.9	9.	—	—
Supplement Molasses	3	—	1.6	10.1	1.1	
Balanced ration	20	1. 8	11.7	24	22.	48000

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INFORMATION SHEET

Table 1. Daily Nutrient Requirements of Horses Based on Mature Weight of 1000 to 1200 lbs.

	Daily Feed Per Horse lbs.	Digestible Protein lbs.	Total Digestible Nutrients lbs.	Calcium grams	Phosphorus grams	Vitamin A Int'n'l. Units *
400 pound weanling (age about 6 months)	11 to 12	1.0 to 1.2	8.0 to 9.0	33.0	21.0	12,000
600 to 700 pound yearling	13 to 14	1.6 to 1.8	9.0 to 10.0	33.0	21.0	16,000
800 to 1000 pound 2 year old	15 to 16	1.3 to 1.5	10.0 to 11.4	17.0	17.0	25,000
1000 lb. mature idle horse (less than 1 hour riding daily)	16 to 17	0.6 to 0.8	6.0 to 8.1	12.0	12.0	8,000
1000 lb. horse-light work (1 to 3 hours riding daily)	16 to 17	0.8 to 1.0	8.0 to 11.0	24.0	21.0	18,000
1000 lb. horse-medium work (3 to 5 hours riding daily)	19 to 20	0.9 to 1.1	11.0 to 14.0	24.0	21.0	18,000
1000 lb. horse-hard work (more than 5 hours riding daily)	22 to 23	1.2 to 1.4	14.0 to 17.0	24.0	21.0	18,000
1000 lb. breeding stallion (moderate breeding)	20 to 22	1.6 to 1.7	13.0 to 15.0	60.0	40.0	32,000
1000 lb. bred mare-light work	18 to 20	1.1 to 1.3	10.0 to 12.0	24.0	24.0	24,000
1000 lb. lactating mare	28 to 30	1.9 to 2.1	18.0 to 20.0	40.0	40.0	40,000

*Horses can use carotene to produce Vitamin A at the rate of 400 International Units of Vitamin A from 1 mg. of carotene.

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INFORMATION SHEET

Table 2. Average Nutrient Content of Feeds

Feed	Digestible Protein %	Total Digestible Nutrients %	Calcium grams per lb.	Phosphorus grams per lb.	Carotene milligrams per lb. †
Concentrates					
Rolled Oats	11.0	75.0	0.41	1.95	0.0
Corn No. 2	7.8	85.0	0.09	1.22	1.3
Rolled Milo	9.3	83.0	0.14	1.22	0.0
Rolled Barley	10.6	80.0	0.41	2.13	0.0
Wheat Bran	12.3	65.0	0.63	5.90	1.2
Wheat Middlings	14.2	75.0	0.22	1.86	1.4
Soybean Oil Meal	42.0	78.0	1.27	2.77	0.0
Linseed Meal	30.0	75.0	1.60	3.20	0.0
Molasses	0.0	53.7	3.35	0.36	0.0
Roughages (Hays)					
Timothy (bright)	4.6	51.0	1.04	0.91	10.0
Oat Hay (green)	5.0	47.3	0.95	0.86	14.0
Bermuda Grass	3.6	44.2	1.68	0.86	18.0
Wheat Hay (green)	3.8	46.7	0.95	0.86	14.0
Smooth Brome	6.1	46.3	1.63	1.18	16.7
Crested Wheatgrass	5.4	51.0	1.00	0.60	2.2
Kentucky Blue Grass	6.5	51.0	1.00	0.94	20.0
Prairie Hay	3.7	43.1	2.80	0.56	14.0
Clover-Timothy	5.5	46.2	4.00	0.86	6.1
Alfalfa	12.4	50.3	6.60	1.06	16.8
Ladino Clover	13.0	44.8	6.20	1.60	73.1
Red Clover	7.6	44.3	6.13	0.86	16.7
Mixed Grass Hay	5.1	53.8	2.65	0.80	9.0
Reed Canary Grass	4.8	45.1	1.63	0.82	7.0
Oat Straw	0.7	44.7	0.86	0.45	0.0

†Convert Carotene to International Units of Vitamin A by multiplying by 400.

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PRACTICAL HORSE NUTRITION
UNIT I

ASSIGNMENT SHEET #1--BALANCE RATION FOR A HORSE

Balance a ration for a mature horse weighing 1000 lbs at hard work. Use oats, soybean meal, and prairie hay.

(NOTE: Balance the concentrate ration for 12% using the Pearson's square method to determine amount of oats and soybean meal to use.)

ASSIGNMENT SHEET #1

BALANCING HORSE RATIONS - WORK SHEET

Animal ______________________ Weight ________ Age _____ Work Classification ____________________

Section 1

Composition of Feeds

Feed	Digestible Protein %	T.D.N. %	Calcium grams per lb.	Phosphorus grams per lb.	Vitamin A International Units per lb. of feed

Section 2

Quantity of Nutrients in Feeds Being Used

Feed	Lbs. fed	Digestible Protein lbs.	T.D.N. lbs.	Calcium gm.	Phosphorus gm.	Vitamin A I.U.
Total						

Section 3

Daily Nutrient Requirements

(Based on air-dry feed containing 90 percent dry matter)

Size and Use of Horse	Lbs. fed	Digestible Protein lbs.	T.D.N. lbs.	Calcium gm.	Phosphorus gm.	Vitamin A I.U.

Section 4

Balancing Ration and Meeting Requirements

Total from Section 2						
Ration deficiency						
Supplement						
Balanced ration						

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PRACTICAL HORSE NUTRITION
UNIT I

ANSWERS TO ASSIGNMENT SHEET

BALANCING HORSE RATIONS - WORK SHEET

Animal Mature Weight 1000 Work Classification Hard work

Section 1 Composition of Feeds

Feed	Digestible Protein %	T.D.N. %	Calcium grams per lb.	Phosphorus grams per lb.	Vitamin A International Units per lb. of feed
Oats	11.0	75	0.41	1.95	- 0 -
Soybean Meal	42.0	78	1.27	2.77	- 0 -
Prairie Hay	3.7	43.1	2.80	0.56	5600

Section 2 Quantity of Nutrients in Feeds Being Used

Feed	Lbs. fed	Digestible Protein lbs.	T.D.N. lbs.	Calcium gm.	Phosphorus gm.	Vitamin A I.U.
Oats	12.6	1.39	9.45	5.17	24.57	- 0 -
Soybean Meal	.4	.17	.31	.51	1.11	- 0 -
Prairie Hay	10.0	.37	4.31	28.00	5.60	56,000
Total	23.0	1.93	14.07	33.68	31.28	56,000

Section 3 Daily Nutrient Requirements
(Based on air-dry feed containing 90 percent dry matter)

Size and Use of Horse	Lbs. fed	Digestible Protein lbs.	T.D.N. lbs.	Calcium gm.	Phosphorus gm.	Vitamin A I.U.
Mature (Hard work)	23.0	1.2-1.4	14-17	24.0	21.0	18,000

Section 4 Balancing Ration and Meeting Requirements

Total from Section 2	23.0	1.93	14.07	33.68	31.28	56,000
Ration deficiency						
Supplement						
Balanced ration						

PRACTICAL HORSE NUTRITION
UNIT I

TEST

NAME ________________________________ SCORE ______________

1. Match terms associated with practical horse nutrition to the correct definitions by placing the appopriate numbers in the blanks provided.

_____a. Chewing

_____b. Feed allowed for a given animal during a day of 24 hours, whether it be fed at one time or in portions at different times

_____c. Semifluid mass of partly digested food expelled by the stomach into the small intestine

_____d. Essential organic nutrient which is required in only a small amount

_____e. Sugars and starches in feeds used for energy

_____f. Similar to carbohydrates, but contain higher percentage of chemical compounds, thus yielding 2.25 times more energy than carbohydrates

_____g. Any group of complex compounds which contain nitrogen and are composed of amino acids

_____h. Inorganic matter which aids in skeletal growth and chemical reactions

_____i. Applies to any food constituent or group of food constituents of the same general chemical composition that aid in the support of life

_____j. Feed that furnishes the necessary nutrients in such proportion and amount as will properly nourish a given animal for a 24-hour period

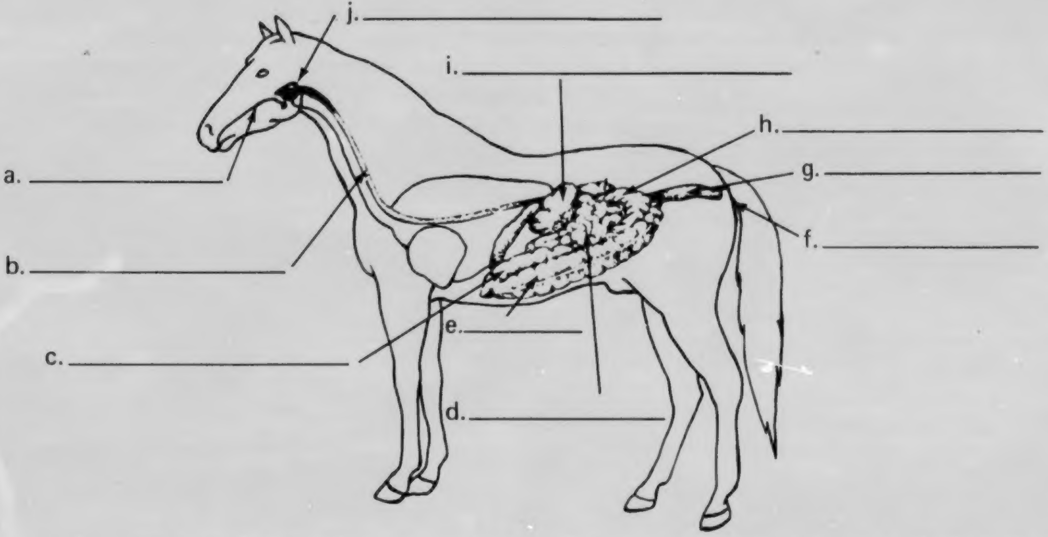
_____k. Abnormal bone growth caused by Vitamin D deficiency

1. Balanced ration
2. Carbohydrates
3. Feedstuffs
4. Chyme
5. Fats
6. Mastication
7. Minerals
8. Rickets
9. Nutrient
10. Epiphysitis
11. Protein
12. Ration
13. Vitamin

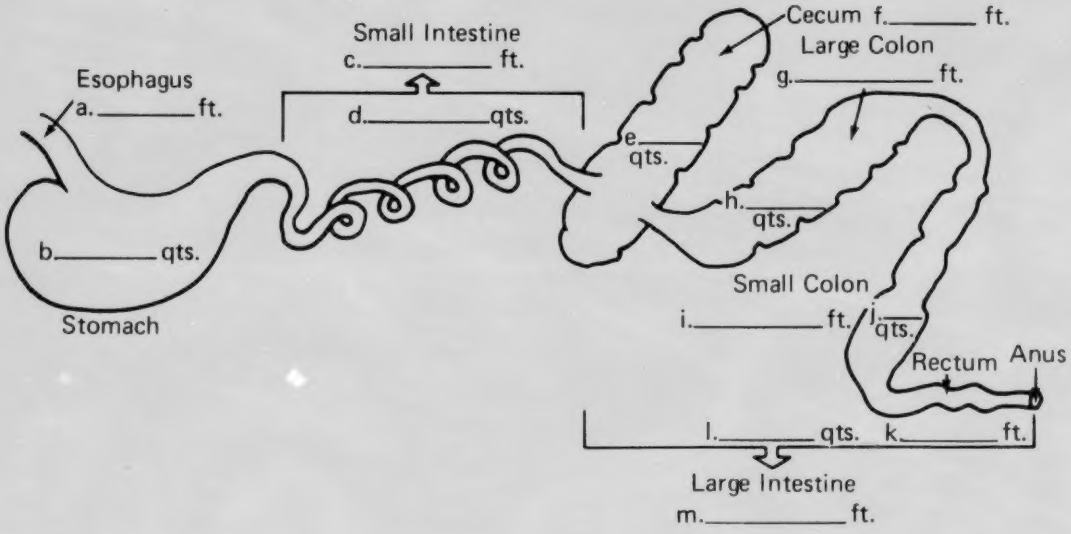
_____l. Nutrients which are taken into the digestive system

_____m. Inflammation of growth plates at ends of long bones; occurs mostly in knees of one- and two-year-olds

2. Identify the parts of the digestive system shown in the illustration below. Write the correct names in the blanks provided.


j. ____________
i. ____________
h. ____________
g. ____________
a. ____________
f. ____________
b. ____________
e. ____________
c. ____________
d. ____________

3. Complete the diagram below concerning size and capacity of components of the digestive system.


Cecum f. _______ ft.
Small Intestine
c. __________ ft.
Large Colon
g. __________ ft.
Esophagus
a. ________ ft.
d. __________ qts.
e ______ qts.
h. ______ qts.
b. ________ qts.
Stomach
Small Colon
i. __________ ft.
j. ____ qts.
Rectum
Anus
l. ________ qts.
k. ________ ft.
Large Intestine
m. __________ ft.

4. Match the parts of the digestive system on the right to the correct descriptions and functions by placing the appropriate numbers in the blanks provided.

______a. Contains mostly fluids; results in breaking down chyme, which forms fatty acids and some vitamins

______b. Tube providing passage of food from pharynx to stomach

______c. Chewing mechanism; secretes saliva to act as a digestive juice and to lubricate food for swallowing

______d. Holds waste material until passed out of horse's body through anal opening

______e. Contains semifluid for digestion, mostly by bacterial fermentation and absorption

______f. J-shaped muscular sac between esophagus and small intestine that secretes gastric juices by which proteins and fats are broken down

______g. Muscular passage which separates mouth from esophagus

______h. Provides further breakdown of proteins, fats, and sugars which have escaped breakdown by gastric juices

______i. Contains relatively solid materials which are formed into balls of dung

1. Mouth
2. Pharynx
3. Esophagus
4. Stomach
5. Small intestine
6. Cecum
7. Large colon
8. Small colon
9. Rectum

5. Name types of nutrients and their purposes.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e. ______________________________

6. Name five functions of nutrients supplied by feed.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e. ______________________________

7. Select from the list below factors affecting digestion by placing an "X" in the appropriate blanks.

______a. Size of horse

______b. Processing of feeds

______c. Frequency of feeding

______d. Time of watering

______e. Sex of horse

______f. Amount of feed

______g. Individuality

______h. Level of intake

______i. Amount and type of work

8. Distinguish between classifications of feeds by placing a "C" before types of concentrates and an "R" before types of roughages.

______a. Oats

______b. Milo

______c. Green (pastures)

______d. Barley

______e. Protein supplements

______f. Corn

______g. Dry (hay)

9. Select from the list below and on the next page regulations and conditions that directly affect quantity of feed. Place an "X" in the correct blanks.

______a. Quality of feed

______b. Season of year

______c. Condition of hair coat

______d. Maturity, size, and physical condition ______e. Sex of horse

______f. Kind of work performed

______g. Time of day

______h. Individuality

10. Select from the list below metabolic disorders directly attributed to feeding by placing an "X" in the appropriate blanks.

______a. Swamp fever

______b. Colic

______c. Strangles

______d. Founder

______e. Parasites

______f. Anemia

______g. Heaves

______h. Sleeping sickness

______i. Tetanus

______j. Azoturia

______k. Mange

______l. Protein deficiency (quality/quantity) in young horses

______m. Malnutrition in lactating mares

______n. Influenza

11. Classify symptoms of nutritional deficiencies by placing a "P" for protein deficiency, an "M" for mineral deficiency, a "V" for vitamin deficiency, or a "C" for carbohydrate deficiency in the appropriate blanks.

______a. Rickets

______b. Delayed bone maturity

______c. Reproduction problems

______d. Slower growth

______e. Impaired vision

______f. Rough hair coat

______g. Loss of weight

______h. Enlarged joints

______i. Respiratory disorders

______j. Less muscle expression

______k. Epiphysitis

______l. Wood chewing

______m. Poorer feed efficiency

______n. Lack of energy

12. Discuss factors to consider in selection of commercial feeds.

13. Complete the following chart on the suggested daily ration for horse that will mature at 1100 pounds.

Description	% Digestible Protein	Weight	Lbs Grain	Lbs Hay	Total Lbs Feed
Weanling		525	7.0	5	12.9
Yearling	14	725		7	14.5
Two-year-old		990	8.0	9	17
Pregnant mare	10	1100	6.0	12	18
Lactating mare		1100			33.5
Mature horse (idle)	8	1100	None	17	17
Mature horse (light work)	10	1100			20.5
Mature horse (medium work)		1100	9.0	14	23.0
Mature horse (heavy work)	10	1100			25.0
Breeding stallion		1100	12.0	12	23.0

14. Balance ration for horse with particular circumstances.

(NOTE: If the above activity has not been accomplished prior to the test, ask your instructor when it should be completed.)

PRACTICAL HORSE NUTRITION
UNIT I

ANSWERS TO TEST

1. a. 6
   b. 12
   c. 4
   d. 13
   e. 2
   f. 5
   g. 11
   h. 7
   i. 9
   j. 1
   k. 8
   l. 3
   m. 10

2. a. Cavity of mouth
   b. Esophagus
   c. Cecum
   d. Small intestine
   e. Large colon
   f. Anus
   g. Rectum
   h. Small colon
   i. Stomach
   j. Pharynx

3. a. 4-5 feet
   b. 8-17 qts
   c. 70 feet
   d. 48 qts
   e. 28-32 qts
   f. 4 feet
   g. 10-12 feet
   h. 80 qts
   i. 10-12 feet
   j. 14 qts
   k. 1 foot
   l. 130 qts
   m. 29 feet

4. a. 6 f. 4

   b. 3 g. 2

   c. 1 h. 5

   d. 9 i. 8

   e. 7

5. a. Carbohydrates and fats--Supply energy

   b. Proteins--Composed of units called *amino acids* which are used as building blocks to develop body tissue

   c. Vitamins--Essential for normal body functions

   d. Minerals--Aid in skeletal growth and chemical reactions

   e. Water--Used for body's chemical reactions, to regulate body heat, and as a lubricant

6. Any five of the following:

   a. Growth

   b. Maintenance

   c. Fuel to maintain body temperature

   d. Energy for vital body functions

   e. Energy for work

   f. Development of young

   g. Production of milk

7. b, c, d, g, h, i

8. a. C e. C

   b. C f. C

   c. R g. R

   d. C

9. a, b, d, f, h

10. b, d, f, g, j, l, m

11. a. M
    b. M
    c. V
    d. P
    e. V
    f. P
    g. C
    h. V
    i. V
    j. P
    k. M
    l. M
    m. P
    n. C

12. Discussion should include:
    a. Reputation of manufacturer
    b. Requirements of horse
    c. Flexibility of commercial mixtures
    d. Analysis of tag
        1) Brand
        2) Net weight
        3) Guaranteed analysis
        4) Ingredients
        5) Name, address, and phone number of manufacturer
        6) Feeding directions

13.

Description	% Digestible Protein	Weight	Lbs Grain	Lbs Hay	Total Lbs Feed
Weanling	17	525	7.0	5	12.9
Yearling	14	725	7.5	7	14.5
Two-year-old	11	990	8.0	9	17
Pregnant mare	10	1100	6.0	12	18
Lactating mare	12	1100	16.5	17	33.5
Mature horse (idle)	8	1100	None	17	17
Mature horse (light work)	10	1100	4.5	16	20.5
Mature horse (medium work)	10	1100	9.0	14	23.0
Mature horse (heavy work)	10	1100	15.0	11	25.0
Breeding stallion	12	1100	12.0	12	23.0

14. Evaluated to the satisfaction of the instructor

FERTILITY AND GENETICS OF REPRODUCTION
UNIT I

UNIT OBJECTIVE

After completion of this unit, the student should be able to identify parts of male and female reproductive systems and discuss fundamentals of heredity. The student should also be able to list conditions in the male and female reproductive systems that cause infertility and state possible results of given matings. This knowledge will be evidenced by completion of assignment sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with fertility and genetics of reproduction to the correct definitions.
2. Identify parts of the female reproductive system.
3. Identify parts of the male reproductive system.
4. Match parts of female reproductive system to their correct functions.
5. Match parts of male reproductive system to their correct functions.
6. Describe fundamentals of heredity.
7. State possible results of given matings.
8. Select from a list activities affecting reproductive efficiency.
9. List conditions in female reproductive system that cause infertility.
10. List conditions in male reproductive system that cause infertility.
11. Describe the influences of hormone secretions.
12. Match breeding systems to their correct definitions.

FERTILITY AND GENETICS OF REPRODUCTION
UNIT I

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

  A. Provide student with objective sheet.

  B. Provide student with information and assignment sheets.

  C. Make transparencies.

  D. Discuss unit and specific objectives.

  E. Discuss information and assignment sheets.

  F. Emphasize the importance of fertility testing.

  G. Give test.

II. Instructional materials:

  A. Objective sheet

  B. Information sheet

  C. Transparency masters

    1. TM 1--Female Reproductive Tract

    2. TM 2--Male Reproductive Tract

    3. TM 3--Hereditary Characteristics

    4. TM 4--Sex Determination

  D. Assignment Sheet #1--Determine Offspring of Given Matings

  E. Test

  F. Answers to test

III. Unit references:

  A. Ensminger, M. E. *Horses and Horsemanship.* Danville, Illinois: Interstate Printers and Publishers, 1969.

  B. Willis, Larryann C. *The Horse Breeding Farm.* South Brunswick and New York: A. S. Barnes and Company, 1976.

C. *Veterinary Treatments and Medications for Horsemen.* Grapevine, Texas: Equine Research Publications, 1977.

D. *Veterinary Encyclopedia for Horsemen.* Grapevine, Texas: Equine Research Publications, 1977.

IV. Additional materials--University of Kentucky, Cooperative Extension Service. *Horses and Horsemanship: 4-H Horse Program.* Chicago: National 4-H Service Committee, Inc., 1965.

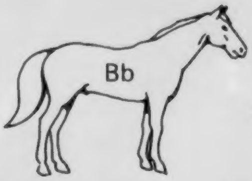
FERTILITY AND GENETICS OF REPRODUCTION
UNIT I

INFORMATION SHEET

I. Terms and definitions

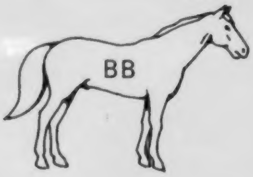
A. Heterozygous--For a certain gene pair, the paired genes are not identical, having one dominant and one recessive factor

Example: Heterozygous horse



B. Homozygous--For a certain gene pair, the paired genes are alike in terms of recessiveness and dominance

Example: Homozygous horse



C. Dominant--Genes that have the ability to mask out other characteristics

(NOTE: Dominance is usually designated by a capital letter.)

Example: Black color is dominant over red

D. Recessive--Genes that can be masked out by other characteristics

(NOTE: Recessive genes are usually designated by a small letter.)

Example: Red color is recessive to black

E. Sperm--Male sex cell produced in testicles

F. Semen--Sperm mixed with fluids from accessory glands

G. Ovum--Female sex cell produced in ovary; egg

H. Sex cells--Egg and sperm which unite to create life

I. Ovary--Female gland which produces egg

J. Testicle--Male gland which produces sperm

INFORMATION SHEET

K. Meiosis--Division of sex cells which results in one-half the number of chromosomes present in original cell

L. Mitosis--Cell division reproducing itself

M. Prepotency--Ability of parent to pass on characteristics to offspring

N. Nicking--To genetically complement one another and produce superior offspring

O. Metestrus--Period of rest following estrus in mare

P. Diestrus--Short period of sexual inactivity between metestrus and proestrus

Q. Proestrus--Preparatory period immediately preceding estrus

R. Estrus--Period of sexual receptivity in female when she is able to conceive; heat

S. Cryptorchid--Failure of testicle to descend into the scrotum

II. Parts of female reproductive system (Transparency 1)

A. Ovary (2)

B. Oviduct (2)

C. Horn of uterus (2)

D. Body of uterus

E. Cervix

F. Vagina

G. Vulva

III. Parts of male reproductive system (Transparency 2)

A. Testicle (2)

B. Scrotum

C. Epididymis

D. Vas deferens

E. Urethra

F. Accessory sex glands: seminal vesicle, prostate gland, cowper's gland

G. Penis

H. Sheath

INFORMATION SHEET

IV. Parts and functions of female reproductive system

  A. Ovary--Produces ovum and hormones necessary for normal reproductive functioning

  B. Oviduct--Small, paired tubes extending from each ovary to uterus

  C. Uterus--Composed of body, horns, and cervix; responsible for accommodating the developing fetus

  D. Vagina--Forms sheath for acceptance of penis during breeding process; part of birth canal between uterus and vulva

  E. Vulva--External opening of the reproductive system

V. Parts and functions of male reproductive system

  A. Testes--Produce sperm and male sex hormone, testosterone

  B. Scrotum--Thin, pliable skin which houses testes

  C. Epididymis--Transport tube for sperm from testes to vas deferens

  D. Vas deferens--Muscular tube propeling sperm during ejaculation

  E. Urethra--Aids in ejaculation of semen and in expulsion of urine

  F. Accessory sex glands--Includes ampullae, seminal vesicles, prostate gland, and cowper's gland; their main function is to produce the majority of components in semen

  G. Penis--External organ used for depositing semen in female reproductive tract

VI. Fundamentals of heredity (Transparency 3)

  A. Gene--Fundamental unit of genetics which determines all hereditary characteristics of animals

  B. Chromosomes--Threadlike structures which exist in pairs, except in sex cells, and carry genes

  C. Qualitative traits (simple)--Traits with sharp distinctions; determined by a single pair or only a few pair of genes

  Examples: Sex, color, coat

INFORMATION SHEET

D. Quantitative traits (multiple)--Traits affected by many pairs of genes; no sharp distinction between phenotypes

Examples: Speed, size, conformation, growth rate, birth rate

E. Phenotype--Genetic expression of the way a horse looks

Examples: Tall or short, dark or light color

F. Genotype--Genetic expression of the way a horse breeds

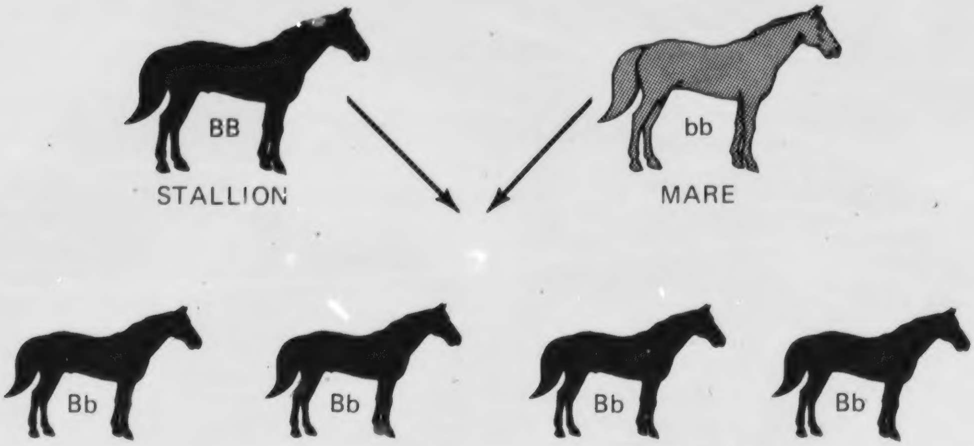
Examples: Dd, Tt, tt

VII. Results of given matings (Assignment Sheet #1)

A. Mating a homozygous dominant black (BB) stallion with a homozygous recessive red (bb) mare--All foals would be black with a recessive gene for red

Example:

MATING OF BLACK STALLION (BB) TO RED MARE (bb)

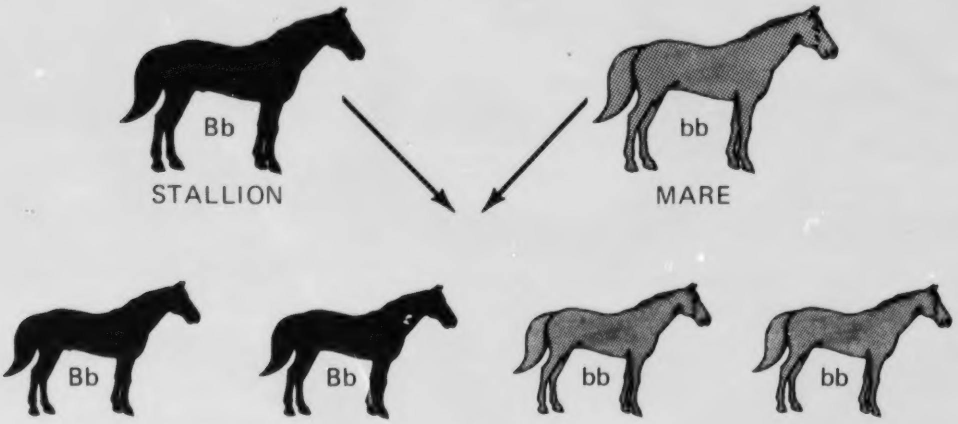


INFORMATION SHEET

B. Mating a heterozygous black (Bb) stallion with a homozygous recessive red (bb) mare--Half the foals would be black and half would be red

Example:

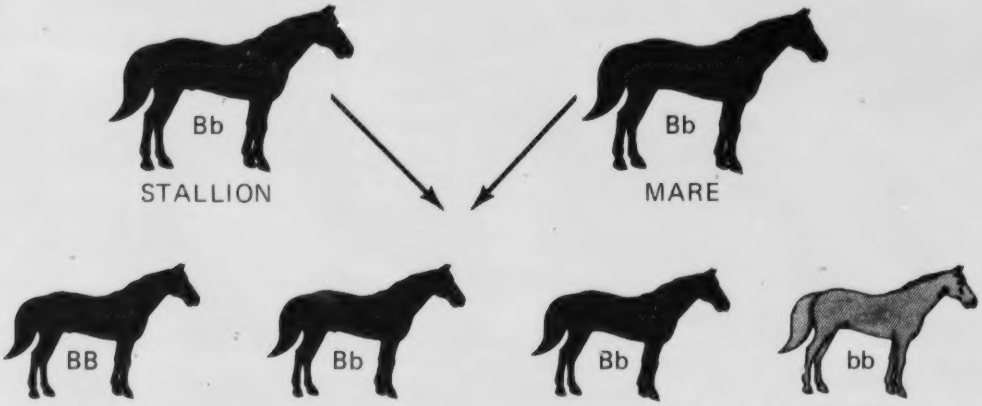
MATING OF BLACK STALLION (Bb) TO RED MARE (bb)


Bb
STALLION
bb
MARE
Bb
Bb
bb
bb

C. Mating a heterozygous black (Bb) stallion with a heterozygous black (Bb) mare--One fourth of the foals would be pure black; one-fourth would be red; and half would appear black but carry the recessive gene for red

Example:

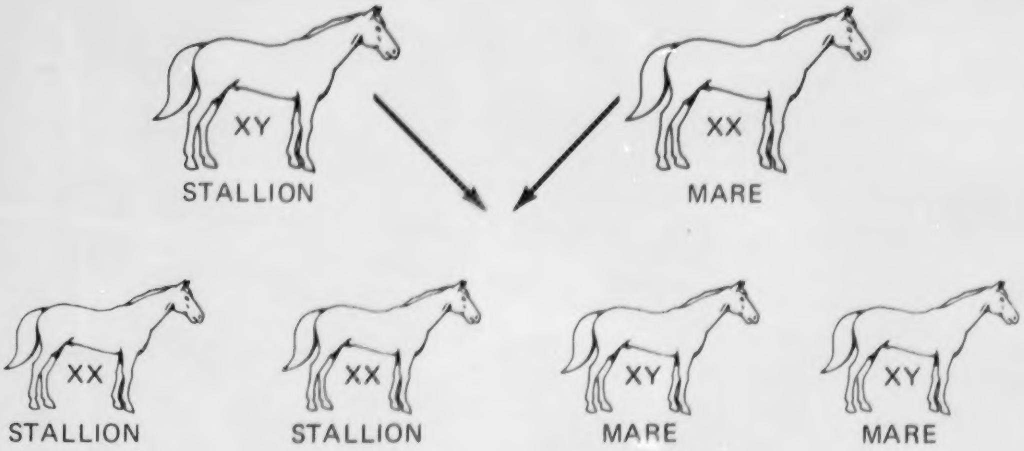
MATING OF BLACK STALLION (Bb) TO BLACK MARE (Bb)


Bb
STALLION
Bb
MARE
BB
Bb
Bb
bb

INFORMATION SHEET

D. Sex determination--One half would be female and one-half would be male (Transparency 4)

HOW SEX IS DETERMINED



VIII. Activities affecting reproductive efficiency

- A. Understanding reproduction in animals
- B. Determining characteristics of offspring
- C. Learning systems of mating
- D. Determining when to breed during estrus
- E. Managing the stallion
- F. Conditioning mare for breeding
- G. Caring for pregnant mare
- H. Handling newborn foal
- I. Caring for suckling foal

IX. Conditions in female reproductive system that cause infertility

- A. Abnormalities of female genital organs

  Examples: Split cervix; closed cervix; closed oviduct; infantile genitals; persistent hymen; sunken anus which causes vaginal self-contamination

INFORMATION SHEET

- B. Rectal vaginal fistula (rupture of vaginal wall between vagina and rectum)
- C. Neoplasms (tumors)
- D. Nonfunctioning or malfunctioning ovaries
- E. Bacterial infection of genitals
- F. Nutritional deficiency
- G. Old age
- H. Obesity (too fat)

X. Conditions in male reproductive system that cause infertility

- A. Poor semen quality
- B. Impotency
- C. Infectious organisms
- D. Abnormalities of reproductive system

  Example: Cryptorchid
- E. Nutritional deficiency
- F. Age
- G. Lack of exercise

XI. Influences of hormone secretions

- A. Stallion
  1. Follicle Stimulating Hormone (FSH)--Thought to be responsible for production of sperm
  2. Luteinizing Hormone (LH)--Stimulation of certain cells in testicles which produce testosterone
  3. Testosterone--Regulates growth of penis and accessory glands; development of secondary sex characteristics
- B. Mare
  1. Follicle Stimulating Hormone (FSH)--Stimulates ovary to secrete estrogen; primarily responsible for follicular growth

INFORMATION SHEET

2. Estrogen--Produces external signs of estrus (heat) and is needed to produce follicle in the ovary

3. Luteinizing Hormone (LH)--Causes ovulation and formation of yellow body (corpus luteum)

4. Progesterone--Produced by yellow body (corpus luteum) which is necessary for a normal pregnancy

5. Prolactin--Responsible for lactation

XII. Breeding systems

A. Purebreeding--Mating of members of one breed which possess common ancestry and distinctive characteristics; either registered or eligible for registry

B. Inbreeding--Mating of animals more closely related than the average of the population from which they came

C. Closebreeding--Mating of closely related animals

Examples: Sire to daughter, son to dam, brother to sister

D. Linebreeding--Mating of animals directed toward common, admired ancestor

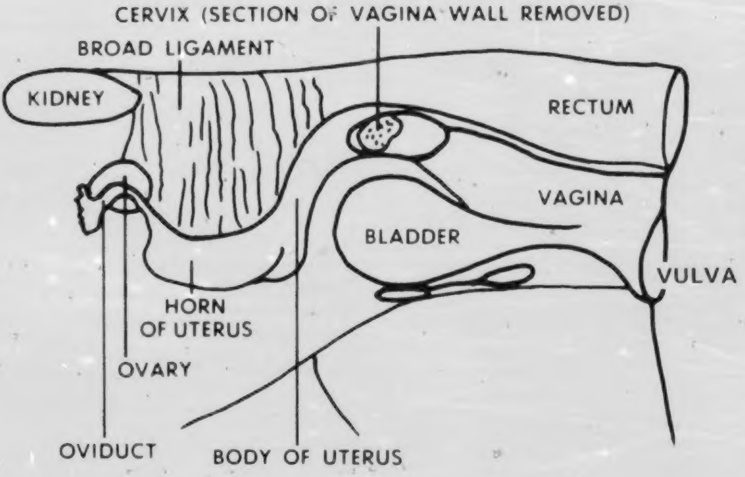
Example: Brother to sister, female to grandsire, cousins

E. Outcrossing--Mating of animals of same breed but which show no close relationship in pedigree (during last 4-6 generations)

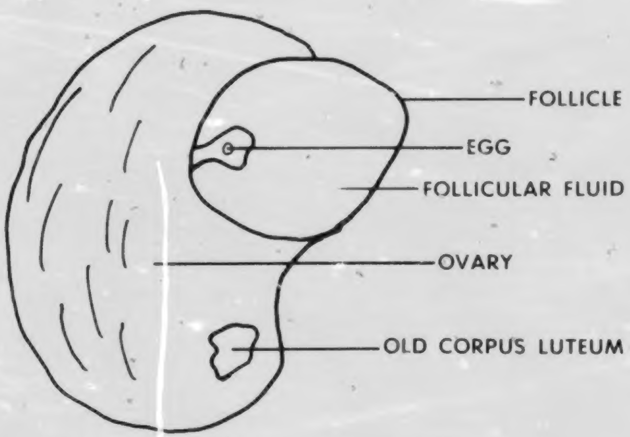
F. Grading up--Purebred sire of given breed mated to grade female or vice versa

G. Crossbreeding--Mating of animals of different breeds

Female Reproductive Tract

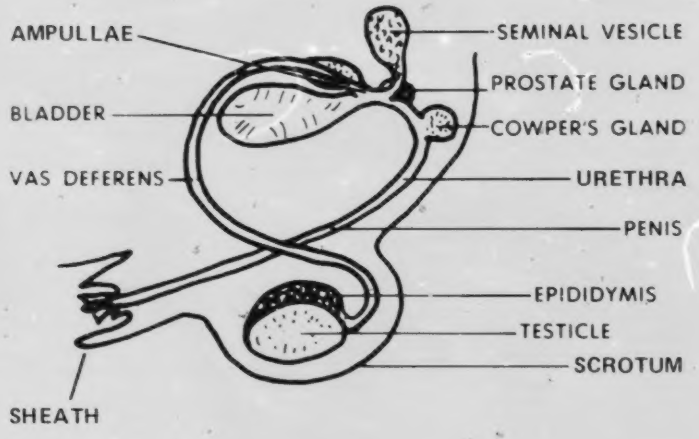

CERVIX (SECTION OF VAGINA WALL REMOVED)
BROAD LIGAMENT
KIDNEY
RECTUM
VAGINA
BLADDER
VULVA
HORN OF UTERUS
OVARY
OVIDUCT
BODY OF UTERUS

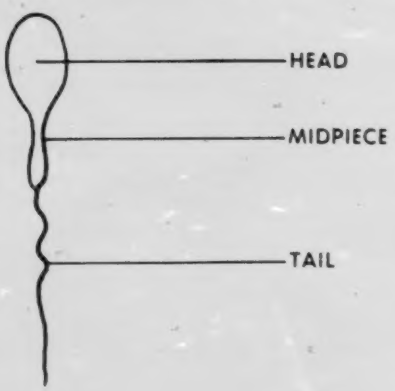
OVARY OF THE MARE


FOLLICLE
EGG
FOLLICULAR FLUID
OVARY
OLD CORPUS LUTEUM

Used by permission of National 4-H Council from *Horse Science: 4-H Horse Program*, p. 18.

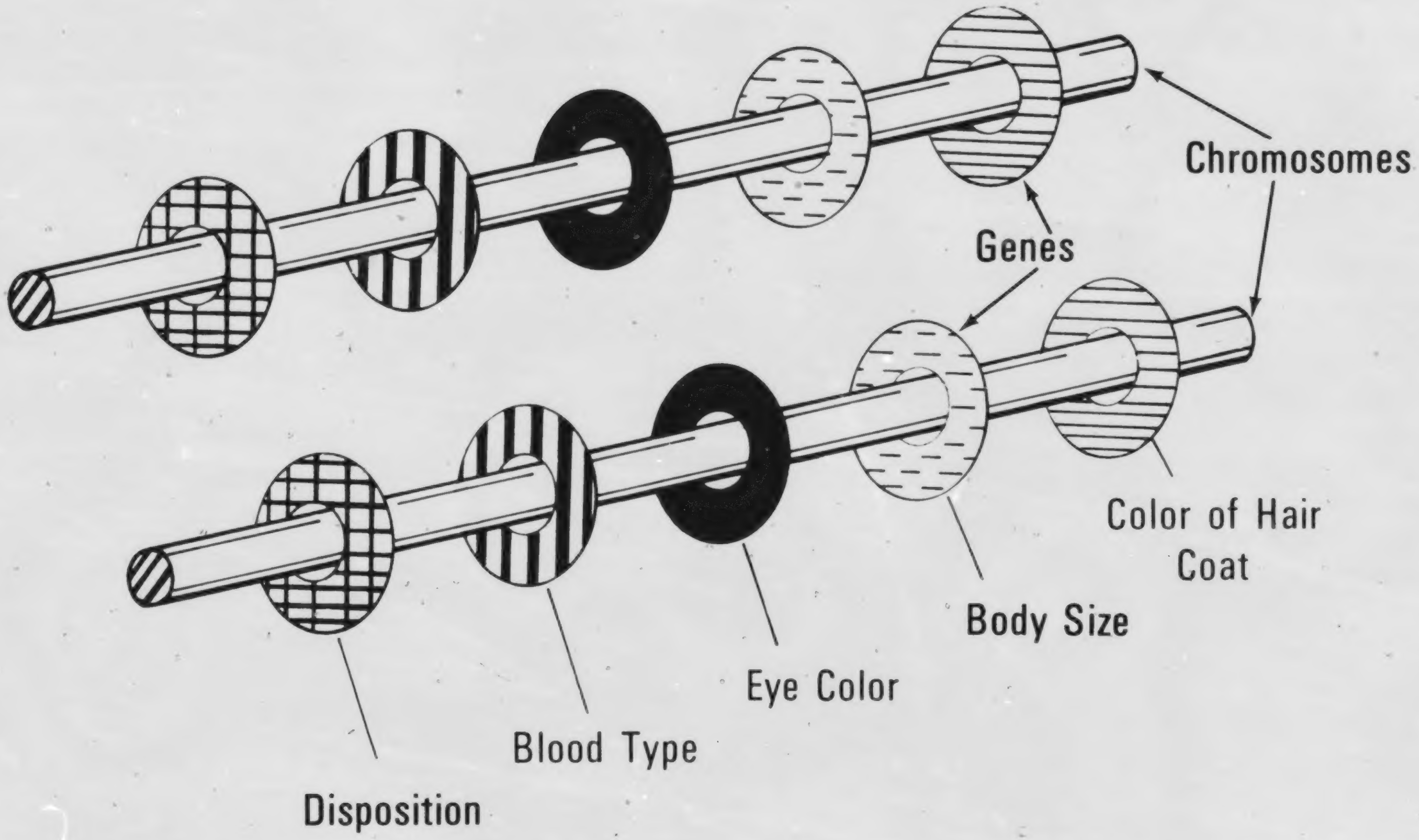
Male Reproductive Tract


AMPULLAE
BLADDER
VAS DEFERENS
SHEATH
SEMINAL VESICLE
PROSTATE GLAND
COWPER'S GLAND
URETHRA
PENIS
EPIDIDYMIS
TESTICLE
SCROTUM


SPERM CELL
HEAD
MIDPIECE
TAIL

Used by permission of National 4-H Council from *Horse Science: 4-H Horse Program*, p. 17.

Hereditary Characteristics



Chromosomes

Genes

Color of Hair Coat

Body Size

Eye Color

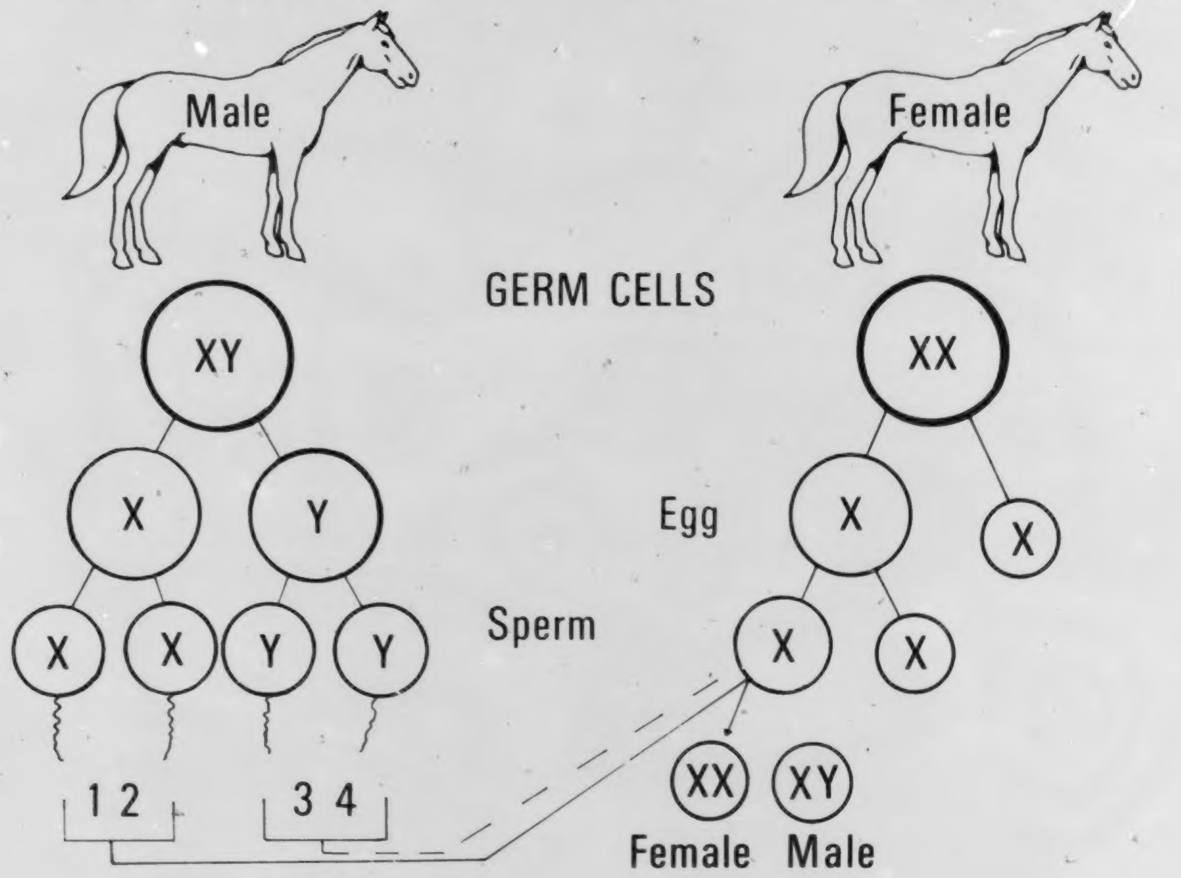
Blood Type

Disposition

Sex Determination

XY = MALE CHROMOSOME

XX = FEMALE CHROMOSOME



Male

Female

GERM CELLS

XY

XX

X

Y

Egg

X

X

Sperm

X X Y Y

X

X

1 2

3 4

XX

XY

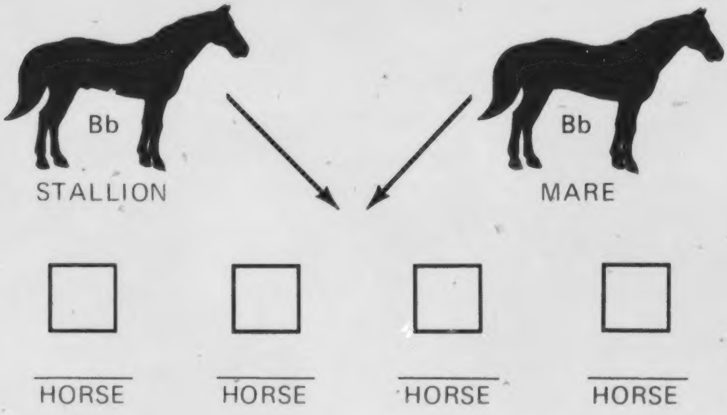
Female

Male

FERTILITY AND GENETICS OF REPRODUCTION
UNIT I

ASSIGNMENT SHEET #1--DETERMINE OFFSPRING OF GIVEN MATINGS

What color would the offspring be from the mating of a heterozygous brown (Bb) stallion and a heterozygous brown (Bb) mare?


Bb
STALLION
Bb
MARE
HORSE
HORSE
HORSE
HORSE

FERTILITY AND GENETICS OF REPRODUCTION
UNIT I

TEST

NAME ______________________________ SCORE ______________

1. Match terms associated with fertility and genetics of reproduction to the correct definitions. Place the appropriate numbers in the blanks provided.

______a. Female gland which produces egg

______b. Genes that can be masked out by other characteristics

______c. Sperm mixed with fluids from accessory glands

______d. Male gland which produces sperm

______e. Male sex cell produced in testicles

______f. Egg and sperm which unite to create life

______g. Female sex cell produced in ovary; egg

______h. Genes that have the ability to mask out other characteristics

______i. Preparatory period immediately preceding estrus

______j. To genetically complement one another and produce superior offspring

______k. Cell division reproducing itself

______l. Period of rest following estrus in mare

______m. Period of sexual receptivity in female when she is able to conceive; heat

______n. Division of sex cells which results in one-half the number of chromosomes present in original cell

______o. Ability of parent to pass on characteristics to offspring

______p. Short period of sexual inactivity between metestrus and proestrus

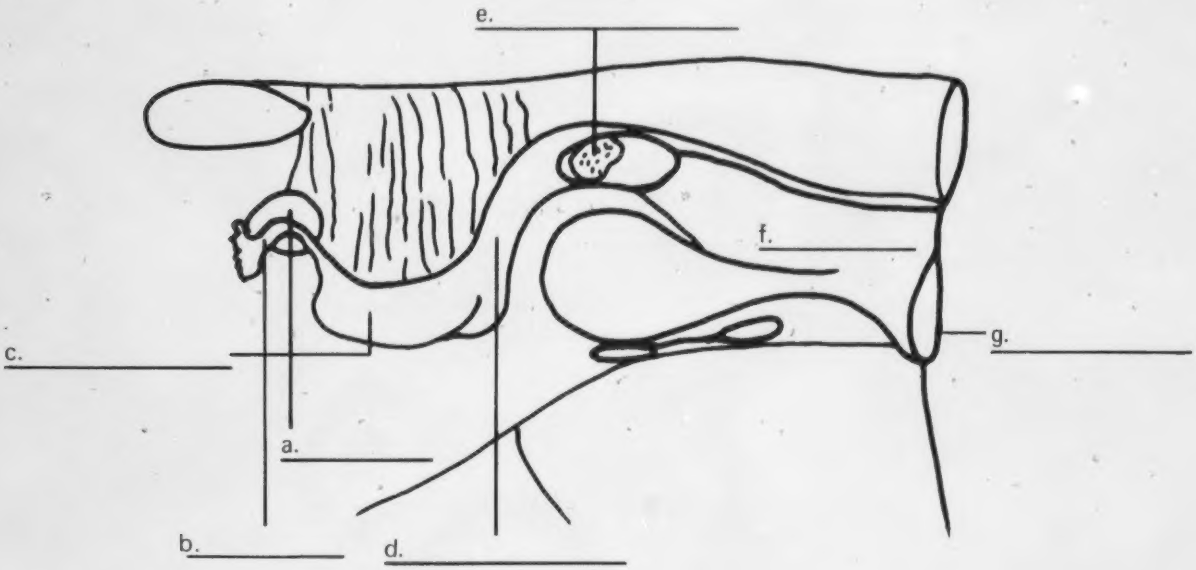
1. Dominant
2. Recessive
3. Sperm
4. Semen
5. Ovum
6. Sex cells
7. Ovary
8. Testicle
9. Meiosis
10. Mitosis
11. Prepotency
12. Nicking
13. Metestrus
14. Diestrus
15. Proestrus
16. Estrus
17. Cryptorchid
18. Homozygous
19. Heterozygous

______q. For a certain gene pair, the paired genes are not identical, having one dominant and one recessive factor

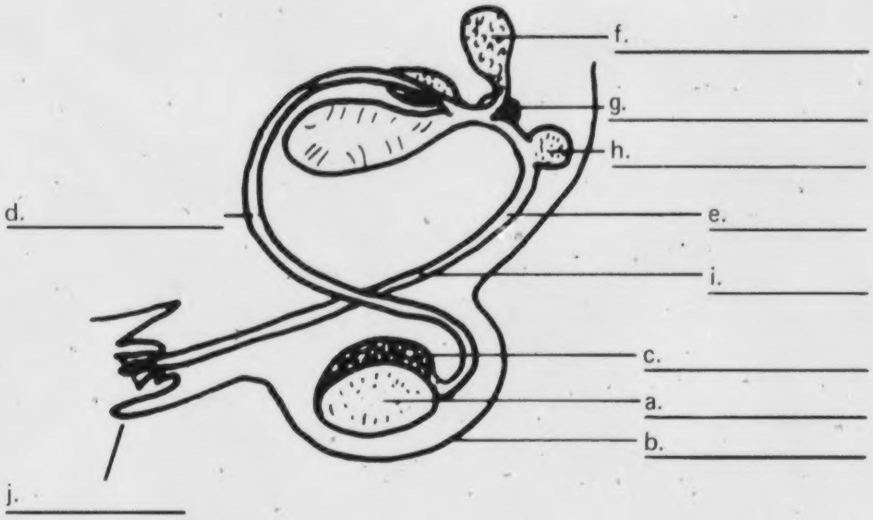
______r. For a certain gene pair, the paired genes are alike in terms of recessiveness and dominance

______s. Failure of testicle to descend into the scrotum

2. Identify parts of female reproductive system shown in the drawing below by writing the correct names in the blanks provided.



3. Identify parts of male reproductive system shown in the drawing below.



4. Match parts of female reproductive system to their correct functions by placing the appropriate numbers in the blanks provided.

_____a. Forms sheath for acceptance of penis during breeding process; part of birth canal between uterus and vulva

_____b. Small, paired tubes extending from each ovary to uterus

_____c. External opening of reproductive system

_____d. Composed of body, horns, and cervix; responsible for accommodating the developing fetus

_____e. Produces ovum and hormones necessary for normal reproductive functioning

1. Ovary
2. Oviduct
3. Uterus
4. Vagina
5. Vulva

5. Match parts of male reproductive system to the correct functions by placing the appropriate numbers in the blanks provided.

______ a. Thin, pliable skin which houses testes

______ b. Includes ampullae, seminal vesicles, prostate gland, and cowper's gland; their main function is to produce the majority of components in semen

______ c. Transport tube for sperm from testes to vas deferens

______ d. Aids in ejaculation of semen and in expulsion of urine

______ e. Produce sperm and male sex hormone, testosterone

______ f. Muscular tube propeling sperm during ejaculation

______ g. External organ used for depositing semen in female reproductive tract

1. Testes
2. Scrotum
3. Epididymis
4. Vas deferens
5. Urethra
6. Accessory sex glands
7. Penis

6. Describe fundamentals of heredity.

a. Gene--______________________________

____

b. Chromosomes--______________________________

____

c. Qualitative traits (simple)--______________________________

____

d. Quantitive traits (multiple)--______________________________

____

e. Phenotype--______________________________

____

f. Genotype--______________________________

____

7. State possible results of the matings given below.

a. Mating a heterozygous black (Bb) stallion with a homozygous recessive red (bb) mare--______________________________

b. Mating a heterozygous black (Bb) stallion with a heterozygous black (Bb) mare--

____

____

c. Mating a homozygous dominant black (BB) stallion with a homozygous recessive red (bb) mare--____________________________

____

d. Sex determination--______________________________

____

8. Select from the list below activities affecting reproductive efficiency. Place an "X" in the appropriate blanks.

______a. Locating proper facilities

______b. Handling newborn foal

______c. Conditioning mare for breeding

______d. Breeding mare early in morning

______e. Understanding reproduction in animals

______f. Crossbreeding

______g. Learning systems of mating

______h. Managing the stallion

______i. Caring for suckling foal

______j. Determining characteristics of offspring

______k. Determining when to breed during estrus

______l. Caring for pregnant mare

9. List conditions in female reproductive system that cause infertility.

a. ____

b. ____

c. ____

d. ____

e. ____

f. ____________________

g. ____________________

h. ____________________

10. List conditions in male reproductive system that cause infertility.

a. ____________________

b. ____________________

c. ____________________

d. ____________________

e. ____________________

f. ____________________

g. ____________________

11. Describe the influences of hormone secretions.

a. Stallion

1) Follicle Stimulating Hormone (FSH)--____________________

2) Luteinizing Hormone (LH)--____________________

3) Testosterone--____________________

b. Mare

1) Follicle Stimulating Hormone (FSH)--____________________

2) Estrogen--____________________

3) Luteinizing Hormone (LH)--____________________

4) Progesterone--____________________

5) Prolactin--____________________

12. Match the breeding systems on the right to the correct definitions by placing the appropriate numbers in the blanks provided.

_____a. Mating of animals more closely related than the average of the population from which they came

_____b. Mating of animals of same breed but which show no close relationship in pedigree (during last 4-6 generations)

_____c. Mating of animals of different breeds

_____d. Mating of animals directed toward common, admired ancestor

_____e. Purebred sire of given breed mated to grade female or vice versa

_____f. Mating of members of one breed which possess common ancestry and distinctive characteristics; either registered or eligible for registry

_____g. Mating of closely related animals

1. Purebreeding
2. Inbreeding
3. Closebreeding
4. Linebreeding
5. Outcrossing
6. Grading up
7. Crossbreeding

FERTILITY AND GENETICS OF REPRODUCTION
UNIT I

ANSWERS TO TEST

1. a. 7
   b. 2
   c. 4
   d. 8
   e. 3
   f. 6
   g. 5
   h. 1
   i. 15
   j. 12
   k. 10
   l. 13
   m. 16
   n. 9
   o. 11
   p. 14
   q. 19
   r. 18
   s. 17
2. a. Ovary
   b. Oviduct
   c. Horn of uterus
   d. Body of uterus
   e. Cervix
   f. Vagina
   g. Vulva
3. a. Testicle
   b. Scrotum
   c. Epididymis
   d. Vas deferens

- e. Urethra
- f. Seminal vesicle
- g. Prostate gland
- h. Cowper's gland
- i. Penis
- j. Sheath

4. a. 4
   - b. 2
   - c. 5
   - d. 3
   - e. 1

5. a. 2
   - b. 6
   - c. 3
   - d. 5
   - e. 1
   - f. 4
   - g. 7

6. Description should include:
   - a. Gene--Fundamental unit of genetics which determines all hereditary characteristics of animals
   - b. Chromosomes--Threadlike structures which exist in pairs, except in sex cells, and carry genes
   - c. Qualitative traits (simple)--Traits with sharp distinctions; determined by a single pair or only a few pair of genes
   - d. Quantitative traits (multiple)--Traits affected by many pairs of genes; no sharp distinction between phenotypes
   - e. Phenotype--Genetic expression of the way a horse looks
   - f. Genotype--Genetic expression of the way a horse breeds

7. a. Half the foals would be black and half would be red
   b. One-fourth of the foals would be pure black; one-fourth would be red; half would appear black but carry the recessive gene for red
   c. All foals would be black with a recessive gene for red
   d. One-half would be female and one-half would be male
8. b, c, e, g, h, i, j, k, l
9. a. Abnormalities of female genital organs
   b. Rectal vaginal fistula (rupture of vaginal wall between vagina and rectum)
   c. Neoplasms (tumors)
   d. Nonfunctioning or malfunctioning ovaries
   e. Bacterial infection of genitals
   f. Nutritional deficiency
   g. Old age
   h. Obesity (too fat)
10. a. Poor semen quality
    b. Impotency
    c. Infectious organisms
    d. Abnormalities of reproductive system
    e. Nutritional deficiency
    f. Age
    g. Lack of exercise
11. Description should include:
    a. Stallion
       1) Follicle Stimulating Hormone (FSH)--Thought to be responsible for production of sperm
       2) Luteinizing Hormone (LH)--Stimulation of certain cells in testicles which produce testosterone
       3) Testosterone--Regulates growth of penis and accessory glands; development of secondary sex characteristics

b. Mare

1) Follicle Stimulating Hormone (FSH)--Stimulates ovary to secrete estrogen; primarily responsible for follicular growth

2) Estrogen--Produces external signs of estrus (heat) and is needed to produce follicle in the ovary

3) Luteinizing Hormone (LH)--Causes ovulation and formation of yellow body (corpus luteum)

4) Progesterone--Produced by yellow body (corpus luteum) which is necessary for normal pregnancy

5) Prolactin--Responsible for lactation

12. a. 2

b. 5

c. 7

d. 4

e. 6

f. 1

g. 3

BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

UNIT OBJECTIVE

After completion of this unit, the student should be able to evaluate semen and detect estrus. The student should be able to describe reproductive hygiene and techniques of the breeding process. This knowledge will be evidenced by completion of job sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with breeding efficiency and mating procedures to the correct definitions.
2. Select from a list factors to consider in keeping a stallion in breeding fitness.
3. Describe methods of semen collection.
4. Describe components of semen evaluation.
5. Describe normal breeding characteristics of mares.
6. Select from a list management practices to consider in teasing mares.
7. Select from a list signs of estrus in the mare.
8. Arrange in order the steps in breeding season hygiene.
9. Explain methods of breeding.
10. Identify methods of restraint when hand mating.
11. Arrange in order the steps in hand mating.
12. Select from a list items to be included in record keeping during breeding season.
13. Name ways to detect pregnancy.
14. Demonstrate the ability to:
    a. Prepare artificial vagina for collection.
    b. Prepare stallion for collection.
    c. Collect semen with artificial vagina.
    d. Evaluate semen.

BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information and job sheets.

   C. Make transparencies.

   D. Discuss unit and specific objectives.

   E. Discuss information sheet and demonstrate job sheets.

   F. Make preparations and take a field trip to a nearby horse farm.

   G. Contact a local veterinarian to speak to class on equine breeding efficiency and mating procedures.

   H. Emphasize breeding hygiene.

   I. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Transparency masters

      1. TM 1--Signs of Estrus in Mares

      2. TM 2--Signs of Estrus in Mares (Continued)

   D. Job sheets

      1. Job Sheet #1--Prepare Artificial Vagina for Collection

      2. Job Sheet #2--Prepare Stallion for Collection

      3. Job Sheet #3--Collect Semen with Artificial Vagina

      4. Job Sheet #4--Evaluate Semen

   E. Test

   F. Answers to test

III. Unit references:

A. Ensminger, M. E. *Horses and Horsemanship.* Danville, Illinois: Interstate Printers and Publishers, 1969.

B. Willis, Larryann C. *The Horse Breeding Farm.* South Brunswick and New York: A. S. Barnes and Company, 1976.

IV. Additional materials:

A. Pickett, B. W., and Voss, J. L. *Reproductive Management of the Stallion.* Fort Collins: Colorado State University Experiment Station in Cooperation with Animal Reproduction Laboratory, Colorado State University, 1973.

B. Voss, J. L., and Pickett, B. W. *Reproductive Management of the Broodmare.* Fort Collins: Colorado State University Animal Reproductive Laboratory, Colorado State University, 1976.

C. Pickett, B. W., and Back, D. G. *Procedures for Preparation, Collection, Evaluation and Insemination of Stallion Semen.* Fort Collins: Colorado State University Experiment Station in Cooperation with Animal Reproduction Laboratory, Colorado State University, 1973.

BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

INFORMATION SHEET

I. Terms and definitions

  A. Estrus--Period of time in which mare is receptive to stallion; usually lasts 5-7 days and occurs in 21-day cycles

  B. Tone of uterus--Elasticity and flexibility of uterus

  C. Copulation--Act of engaging in sexual intercourse

  D. Semen--Sperm mixed with fluids from accessory glands

  E. Ejaculate--Semen released during copulation

  F. Spermatozoa--Male sex cell produced in testicles

  G. Motility--Exhibiting or capable of movement

  H. Spermicide--Substance which kills sperm cells

  I. Exudate--Discharge of fluid and tissue material from an oozing sore or wound

  J. Maiden mare--Mare that has never been bred

  K. Barren mare--Mare that has been bred but has not produced a foal in previous year

  L. Winking--Lips of vulva contract and relax

  M. Lactating mare--Mare that is suckling a foal

II. Keeping a stallion in breeding fitness

  A. Evaluate semen during and prior to breeding season

  B. Keep an accurate blood cell count of white and red blood cells

  (NOTE: Anemia and other types of infection are detected in this manner.)

  C. Keep vaccinations current

  Examples: Tetanus, eastern and western encephalitis, influenza

  D. Feed a well-balanced, proper diet

  E. Exercise sufficiently

  F. Observe daily for adverse health symptoms

INFORMATION SHEET

III. Methods of semen collection

A. Artificial vagina--Device with leather covering and rubber inner lining to be filled with water to regulate temperature and pressure

B. Condom--Large rubber device used to cover penis and collect semen during copulation

C. Drippings from dismount--Collection of remainder of semen during dismount; usually caught in cup or small container

IV. Components of semen evaluation

A. Volume of ejaculate--Usually 50 to 150 ml

B. Visual appraisal--Color of semen should be slightly cloudy and with consistency of light mineral oil, free of blood and foreign matter

C. Microscopic examination--Used to determine the number of live spermatozoa, amount and rate of movement, and number of abnormal spermatozoa

1. Motility--Number of spermatozoa moving; range of 65-90% is acceptable

(NOTE: This relates to the fertility of the spermatozoa since they must be motile to be fertile.)

2. Rate of motility--Amount of movement of spermatozoa

(NOTE: This is an indicator of strength of the cells.)

3. Concentration--Number of sperm cells per ml of semen; average concentration is 150-200 million per ml of semen

(NOTE: Numbers vary in individual horses.)

4. Abnormal sperm count--Sample of semen with more than 20% abnormal sperm

V. Normal breeding characteristics of mares

A. Age of puberty--Fifteen to eighteen months

B. Age to breed mares--Not earlier than three years of age

C. Estrus (heat cycle)--Approximately 21-day intervals but may vary 10-37 days; lasts 4-6 days; time of receptivity of stallion

D. Ovulation--Rupture of follicle and release of egg from the ovary; usually one day before or one day after mare goes out of estrus

INFORMATION SHEET

E. Gestation period--Time from conception until parturition; average is approximately 336 days, but may range from 310-370 days

F. Foal heat--Mares usually show signs of estrus 9-11 days after foaling; may vary 3-13 days

VI. Management practices to consider in teasing mares

A. Tease mares with foals and barren mares every day; tease maiden mares every other day

B. Use solid barrier 4-feet high to separate mare and stallion while teasing

C. Note reaction of mare before, during, and after presence of stallion

D. Use a teaser that shows continued interest with a moderate degreee of nickering and demonstration of masculinity

(NOTE: A rank, noisy animal is best avoided.)

E. Tease mare by allowing stallion to start at mare's head and progress toward the rear

F. Keep accurate records

VII. Signs of estrus in the mare (Transparencies 1 and 2)

(NOTE: Mares have a stronger tendency to show signs of estrus in the company of a stallion.)

A. Relaxation of external genitals

B. More frequent urination

C. Teasing of other mares

D. Apparent desire for company

E. Slight mucous discharge from vagina

F. Winking of the vulva

G. Raising tail and squatting, sometimes excreting urine-type liquid

VIII. Steps in breeding season hygiene

(CAUTION: Disease can easily be transmitted by not using proper sanitation.)

A. Stallion

1. Place stallion in surroundings where he will achieve an erection

INFORMATION SHEET

2. Wash penis with mild soap and warm water

   (NOTE: Disposable products, such as cotton or paper towels, may be used.)

3. Rinse penis with clean water to remove soap

   (CAUTION: Soap is a spermicide.)

4. Dry penis with disposable paper towel in preparation for breeding

5. Wash penis after copulation

6. Rinse penis thoroughly

7. Disinfect all areas of stallion that made contact with mare

8. Groom stallion before returning to stall or paddock

B. Mare

1. Wrap upper one-third of mare's tail with clean wrap

2. Wash external genitals with mild soap and warm water, making sure to clean all areas stallion's penis may contact

   (NOTE: Disposable products, such as cotton or paper towels, may be used.)

3. Rinse thoroughly to remove all remaining soap particles

   (CAUTION: Soap is a spermicide.)

4. Dry genital area in preparation for breeding

5. Remove tail wrap after breeding

IX. Methods of breeding

A. Hand breeding--Stallion and mare are handled by individual handlers during breeding process

B. Corral breeding--Mare and stallion are placed together in well-fenced corral

C. Pasture breeding--Stallion is placed in pasture with band of mares

D. Artificial insemination--Semen is collected from stallion and placed in reproductive tract of mare

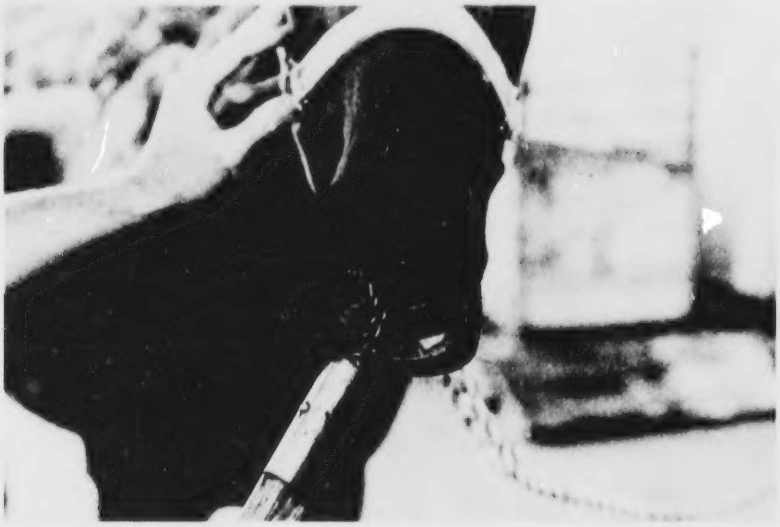
(NOTE: Association rules should be checked concerning registration of foals before using this method.)

INFORMATION SHEET

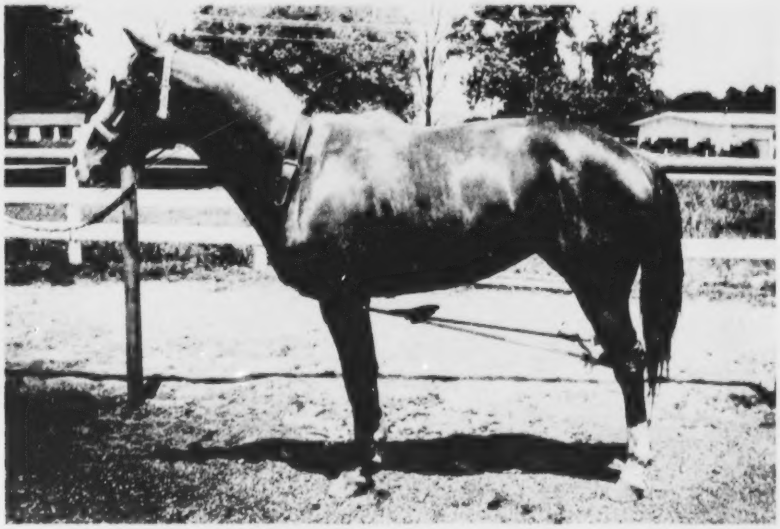
X. Methods of restraint when hand mating

A. Mare

1. Twitch



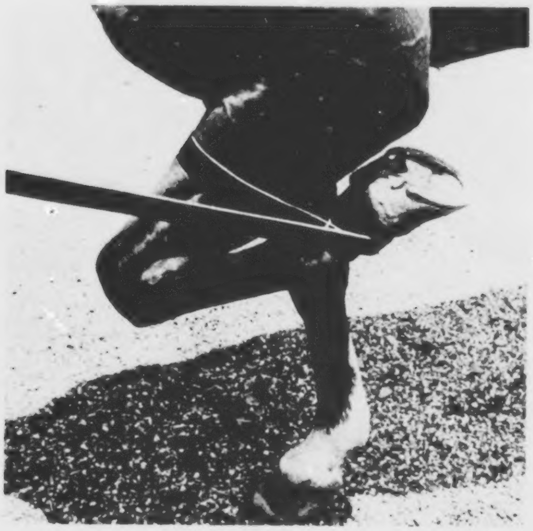
2. Hobbles



(NOTE: Breeding hobbles will prevent the mare from kicking the stallion. These hobbles are tied so that they can be released quickly in case of entanglement.)

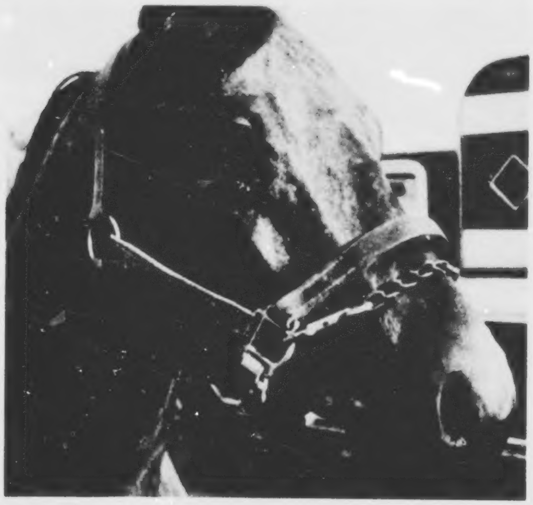
INFORMATION SHEET

3. Strapping a foreleg off the ground



B. Stallion--Sturdy leather halter with chain lead over nose, under chin, or in mouth

(NOTE: Location of chain depends on how difficult the stallion is to handle.)



XI. Steps in hand mating

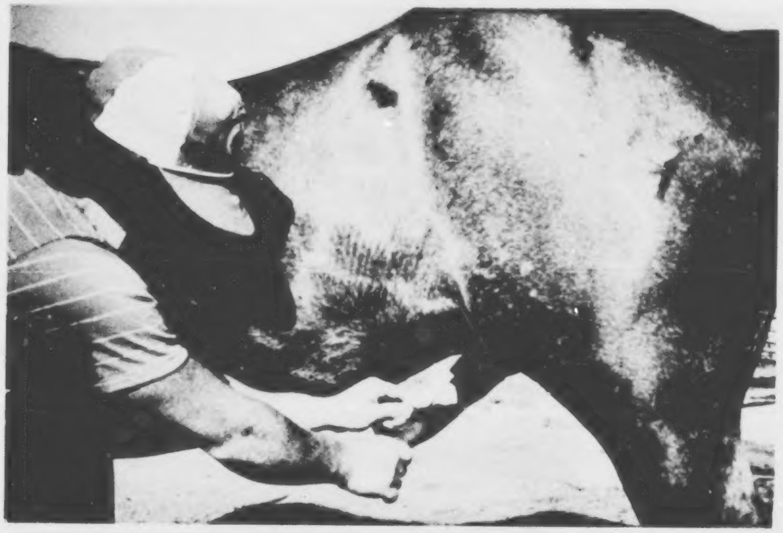
(NOTE: A minimum of two people is required for this method of breeding, one person to manage stallion and another to manage mare.)

A. Tease mare to insure that she is in heat

INFORMATION SHEET

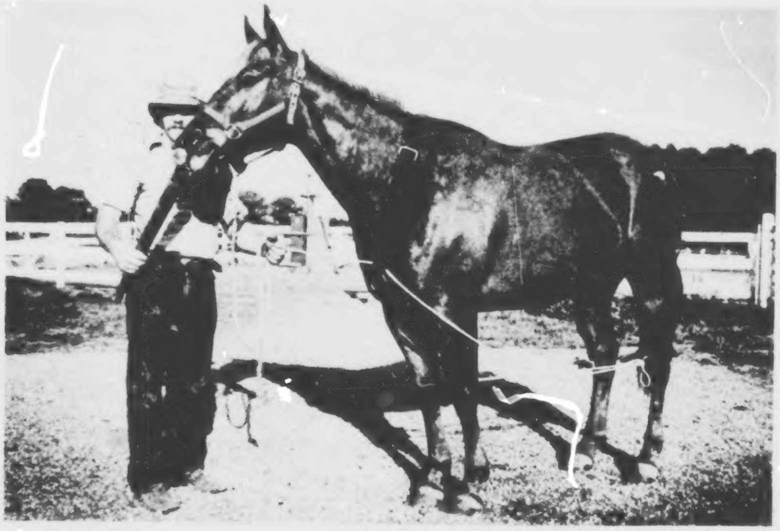
D. Wash stallion with mild soap and water; rinse thoroughly

(NOTE: The stallion should be washed before and after servicing the mare.)



E. Apply restraint methods to mare

(NOTE: Use twitch and hobbles or strap foreleg off ground.)



INFORMATION SHEET

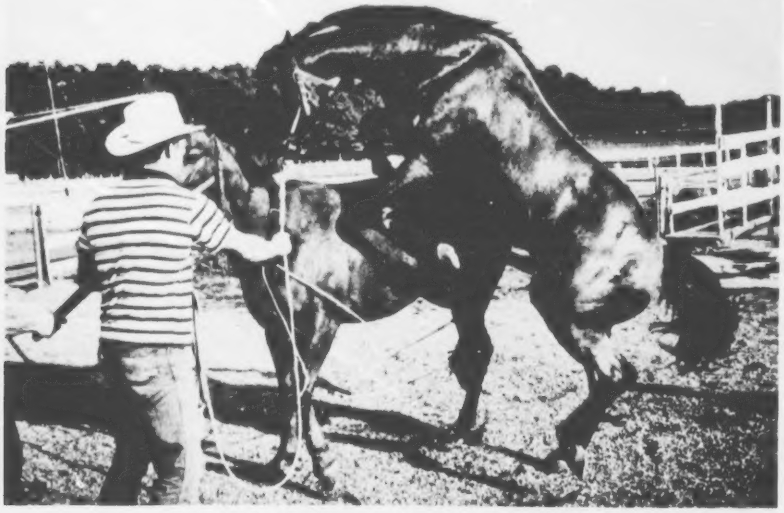
B. Wrap tail with sterile gauze or clean leg wrap

C. Wash genital area of mare thoroughly; rinse thoroughly to remove all remaining soap

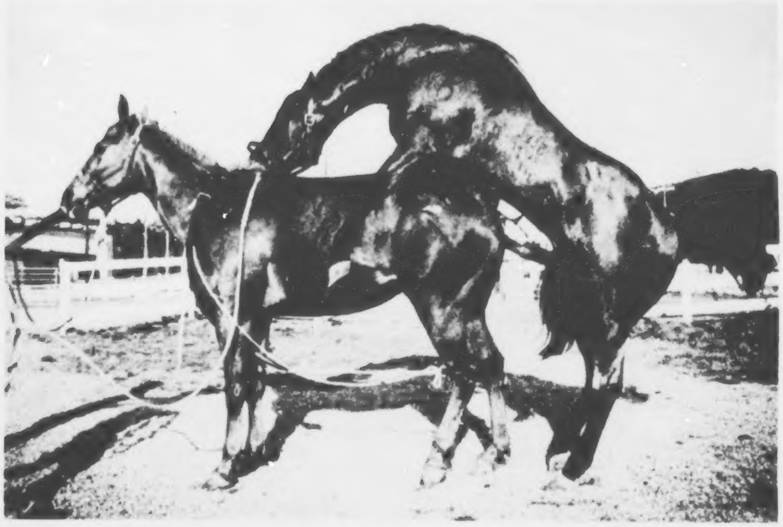
(NOTE: Include area around genitals where stallion might make contact before copulation.)

INFORMATION SHEET

F. Allow stallion to mount on the left side of the mare to avoid being kicked



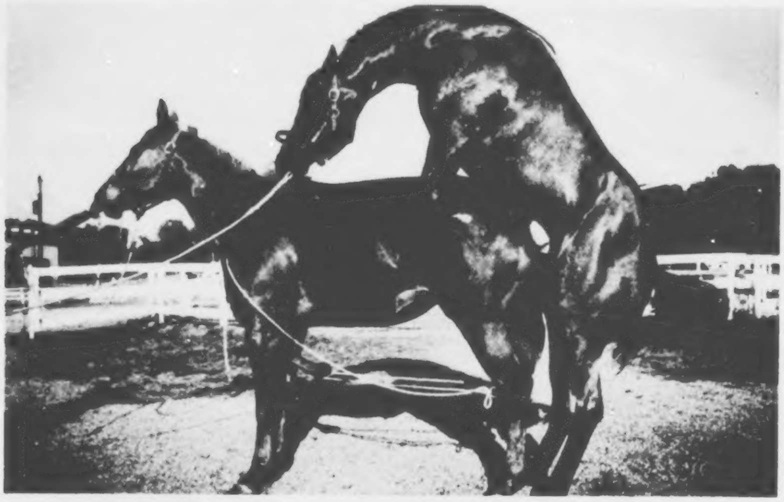
G. Allow stallion to work his way to the rear of the mare



INFORMATION SHEET

H. Let stallion get into breeding position; observe for a flagging motion of tail to indicate ejaculation

(NOTE: Allow stallion to dismount on his own. DO NOT force stallion to dismount.)



I. Wash and rinse stallion as soon as he dismounts

J. Walk mare for five minutes

K. Groom stallion before placing back in stall or paddock

XII. Items to be included in record keeping during breeding season

A. Foaling process

Examples: Date, weight of placenta, condition of placenta, degree of difficulty of birth

B. Date and results of last culture

C. Whether mare is barren, maiden, or lactating

D. Date of last estrus

E. Number of days between estrus periods

F. Length of estrus

G. Reaction to stallion (if known)

H. Any bad habits mare may possess

INFORMATION SHEET

XIII. Ways to detect pregnancy

A. Cessation of heat period

B. Rectal palpation

C. Laboratory tests

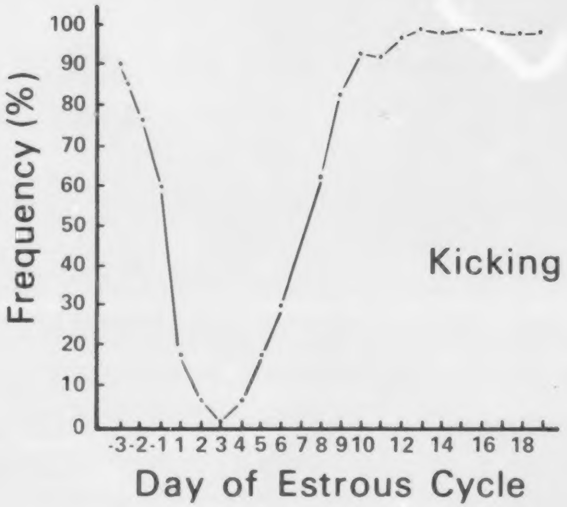
Examples: Biological tests, immunological tests, chemical tests

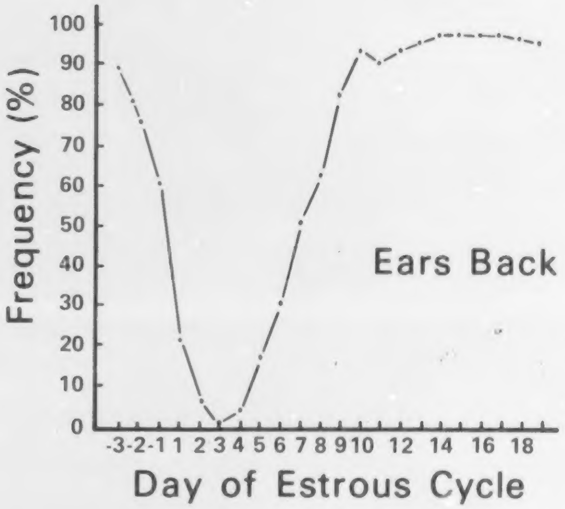
D. Movement of live fetus

E. Enlargement of mare's stomach and flank area

Signs of Estrus in Mares

Non-Estrus





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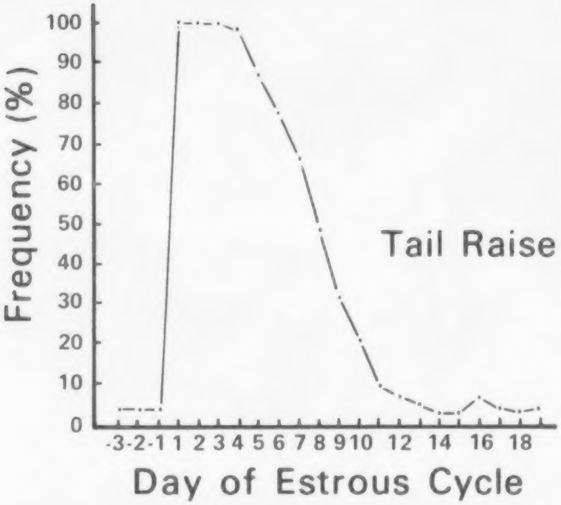
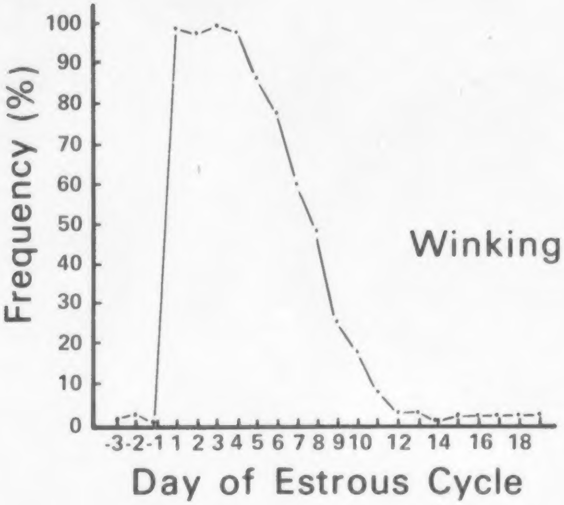
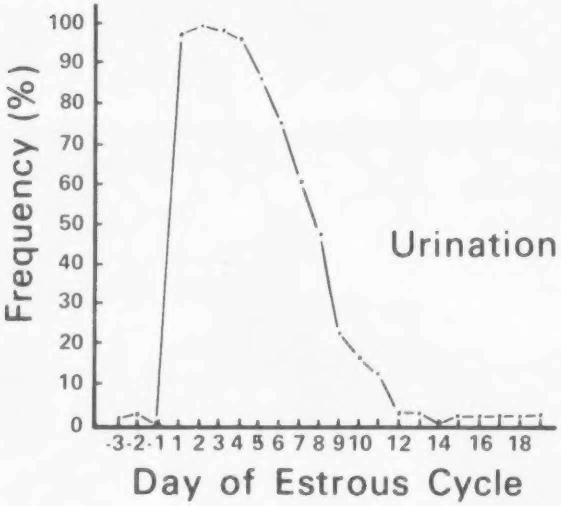
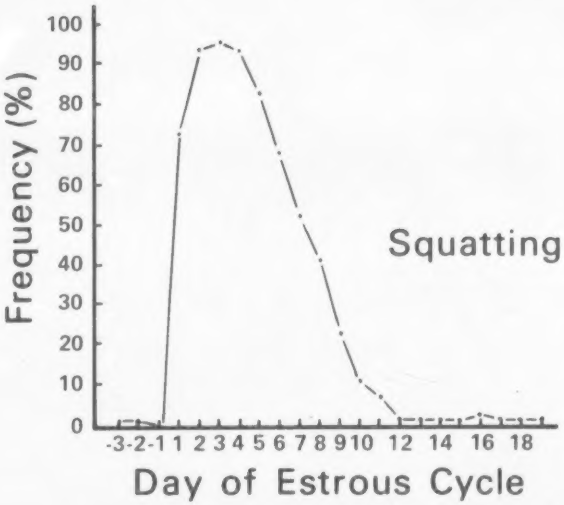
Signs of Estrus in Mares
(Continued)

Estrus









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BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

JOB SHEET #1--PREPARE ARTIFICIAL VAGINA FOR COLLECTION

I. Equipment and materials

  A. Artificial vagina

  B. Thermometer

  C. Warm water

II. Procedure

  A. Follow instructions to assemble

  (NOTE: If instructions are not included, place outer covering over rubber liner and attach collection bottle and filter.)

  B. Fill outer jacket of artificial vagina one-half to two-thirds with water

  (NOTE: Amount of water and pressure should be dictated by "preference" of stallion.)

  C. Temperature should be maintained between 110°-118°F (44°-48°C)

  (NOTE: Some breeding farms use a warming oven to maintain temperature.)

  D. Lubricate first three-fourths of artificial vagina with sterile lubricant

  (CAUTION: Excessive lubrication contaminates and kills spermatozoa.)

  E. Take artificial vagina directly to prepared stallion or store in warming oven to maintain temperature

BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

JOB SHEET #2--PREPARE STALLION FOR COLLECTION

I. Equipment and materials

- A. Stallion
- B. Mild soap
- C. Warm water, 104 1/4°-108 1/4° (40°-42 1/4°C)
- D. Buckets, 2
- E. Cotton and/or paper towels

II. Procedure

- A. Allow stallion to tease mare at teasing rail until an erection is attained
- B. Instruct handler to restrain stallion from near side (left side) of horse
- C. Stand on near side of horse also, grasping penis firmly, but gently
- D. Wash penis thoroughly but gently

  (NOTE: Early in the season, several washings may be required to thoroughly clean stallion.)

- E. Rinse, making sure all soap is removed

  (NOTE: Washing should be conducted in such a manner that it is enjoyed by the stallion. The penis should never be used to restrain the stallion if he becomes unmanageable.)

BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

JOB SHEET #3--COLLECT SEMEN WITH ARTIFICIAL VAGINA

I. Equipment and materials

A. Prepared artificial vagina (A.V.)

B. Prepared stallion

C. Mare in standing heat, restrained, and tail-wrapped

(NOTE: Dummy model may be used if stallion will respond.)

II. Procedure

A. Instruct stallion handler to follow procedure as if you were hand mating

(NOTE: Collector is to work from the near side [left side] of the stallion.)

B. Direct stallion's penis into the A.V. once he mounts mare

C. Hold A.V. at 30° angle to underline of mare

D. Place right hand on the base of the penis during intermission and thrusting to feel the pulsations of ejaculation

(NOTE: Ejaculation should last about 15 seconds.)

E. Lower end of A.V. with collection tube to allow semen to collect in designated area

(CAUTION: During copulation, stallion handler should have hand at back of stallion's left front knee to provide support for stallion and protection for collector.)

F. Strip penis of remaining ejaculate upon dismounting

(NOTE: This is a good time to use a urethral swab to obtain a culture sample.)

G. Drain approximately three-fourths of water from A.V.; take to laboratory immediately

BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

JOB SHEET #4--EVALUATE SEMEN

I. Equipment and materials

   A. Collected semen

   B. Graduated cylinder

   C. Pipette

   D. Microscope

   E. Slides and covers

   F. 2% sodium citrate

II. Procedure

   A. Remove collection of semen from A.V. and strain semen if filter was not used

   (NOTE: Triple thickness of cheese cloth is good to use as a strainer.)

   B. Prewarm graduated cylinder to 100°F (38 1/4°C)

   C. Place semen in graduated cylinder by holding cylinder at 45° angle and pouring down the side

   D. Make visual appraisal for volume, color, and consistency

   E. Use prewarmed pipette to place a single drop of 2% sodium citrate and one drop of raw semen on one end of slide; repeat process at other end

   F. Cover each drop with cover slip so air bubbles will not become trapped under cover slip

   G. Place slide under microscope and view sperm under 200 magnifications

   (CAUTION: When lowering the objective, be certain it does not push the cover slip against the slide.)

   H. Observe 3-5 fields per cover slip

   (NOTE: Observe fields near the center of the drops since drying occurs rapidly around the edges.)

JOB SHEET #4

I. Estimate motility

J. Estimate number of abnormal cells

(NOTE: If you wish to extend semen and artificially inseminate mares, concentration of sperm cells becomes important. Refer to information on components of semen evaluation.)

BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

TEST

NAME ______________________________ SCORE ______________

1. Match terms associated with breeding efficiency and mating procedures to the correct definitions by placing the appropriate numbers in the blanks provided.

_____a. Mare that has never been bred

_____b. Sperm mixed with fluids from accessory glands

_____c. Substance which kills sperm cells

_____d. Act of engaging in sexual intercourse

_____e. Period of time in which mare is receptive to stallion; usually lasts 5-7 days and occurs in 21-day cycles

_____f. Lips of vulva contract and relax

_____g. Exhibiting or capable of movement

_____h. Elasticity and flexibility of uterus

_____i. Semen released during copulation

_____j. Discharge of fluid and tissue material from an oozing sore or wound

_____k. Mare that is suckling a foal

_____l. Male sex cell produced in testicles

_____m. Mare that has been bred but has not produced a foal in previous year

1. Estrus
2. Tone of uterus
3. Copulation
4. Semen
5. Ejaculate
6. Spermatozoa
7. Motility
8. Spermicide
9. Exudate
10. Maiden mare
11. Barren mare
12. Lactating mare
13. Winking

2. Select from the list below factors to consider in keeping a stallion in breeding fitness. Place an "X" in the appropriate blanks.

_____a. Observe weekly for adverse health symptoms

_____b. Feed a well-balanced, proper diet

_____c. Keep vaccinations current

_____d. Evaluate semen after breeding season

_____e. Exercise sufficiently

______ f. Weigh stallion twice weekly

______ g. Keep an accurate blood cell count of white and red blood cells

3. Describe methods of semen collection.

a. Artificial vagina--____

b. Condom--____

c. Drippings from dismount--________________________________

4. Describe components of semen evaluation.

a. Volume of ejaculate--________________________________

b. Visual appraisal--________________________________

c. Microscopic examination--________________________________

1) Motility--________________________________

2) Rate of motility--________________________________

3) Concentration--________________________________

4) Abnormal sperm count--________________________________

5. Describe normal breeding characteristics of mares.

   a. Age of puberty--____

   ____

   b. Age to breed mares--____________________________________

   c. Estrus (heat cycle)--____________________________________

   ____

   d. Ovulation--____

   ____

   e. Gestation period--______________________________________

   ____

   f. Foal heat--____

   ____

6. Select from the list below management practices to consider in teasing mares by placing an "X" in the appropriate blanks.

   ______a. Tease mare by allowing stallion to start at mare's flank region

   ______b. Keep accurate records

   ______c. Use a noisy teaser with a high degree of nickering and demonstration of masculinity

   ______d. Note reaction of mare before, during, and after presence of stallion

   ______e. Use a fence-like barrier 6-feet high to separate mare and stallion while teasing

   ______f. Tease maiden mares daily early in season to insure breeding efficiency

7. Select from the list below signs of estrus in the mare by placing an "X" in the appropriate blanks.

   ______a. Apparent desire for company

   ______b. Raising tail and squatting, sometimes excreting urine-type liquid

   ______c. Winking of the vagina

   ______d. Heavy mucous discharge from vulva

   ______e. Teasing of other stallions

   ______f. Less frequent urination

   ______g. Apparent tenseness of external genitals

8. Arrange in order the steps in breeding season hygiene. Place a "1" in front of the first step, a "2" in front of the second, and so on.

   a. Stallion

      ______1) Rinse penis with clean water to remove soap

      ______2) Wash penis after copulation

      ______3) Groom stallion before returning to stall or paddock

      ______4) Rinse penis thoroughly

      ______5) Place stallion in surroundings where he will achieve an erection

      ______6) Disinfect all areas of stallion that made contact with mare

      ______7) Wash penis with mild soap and warm water

      ______8) Dry penis with disposable paper towel in preparation for breeding

   b. Mare

      ______1) Dry genital area in preparation for breeding

      ______2) Wrap upper one-third of mare's tail with clean wrap

      ______3) Remove tail wrap after breeding

      ______4) Rinse thoroughly to remove all remaining soap particles

      ______5) Wash external genitals with mild soap and warm water, making sure to clean all areas stallion's penis may contact

9. Explain methods of breeding.

   a. Hand breeding--______________________________

   ____

   b. Corral breeding--______________________________

   ____

   c. Pasture breeding--______________________________

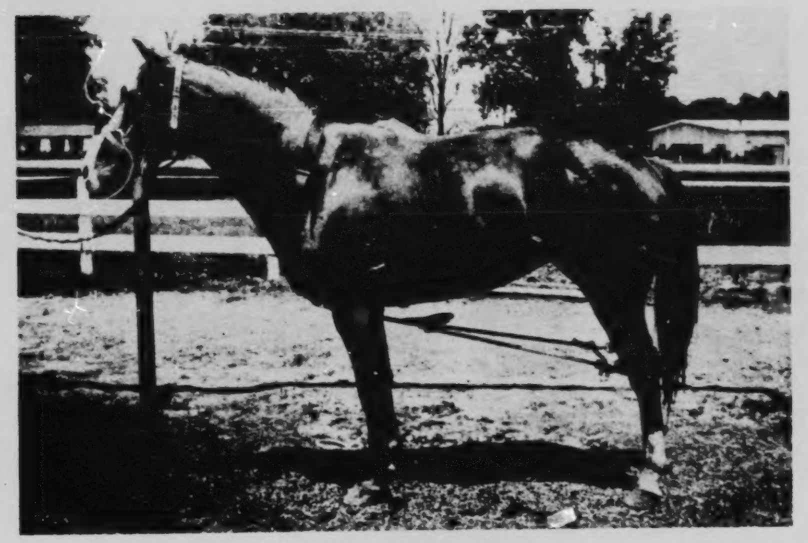
   ____

   d. Artificial insemination--______________________________

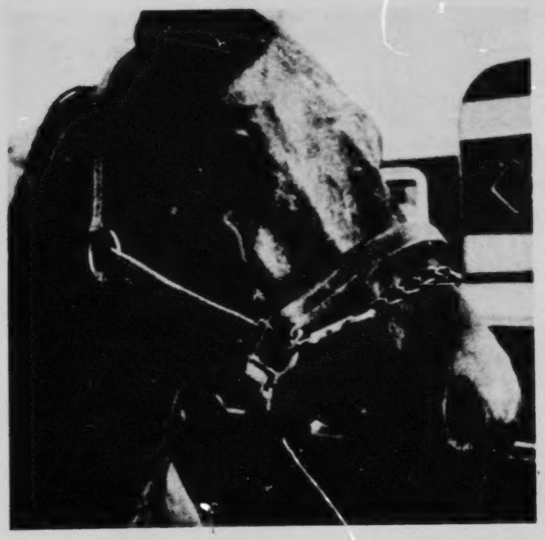
   ____

   ____

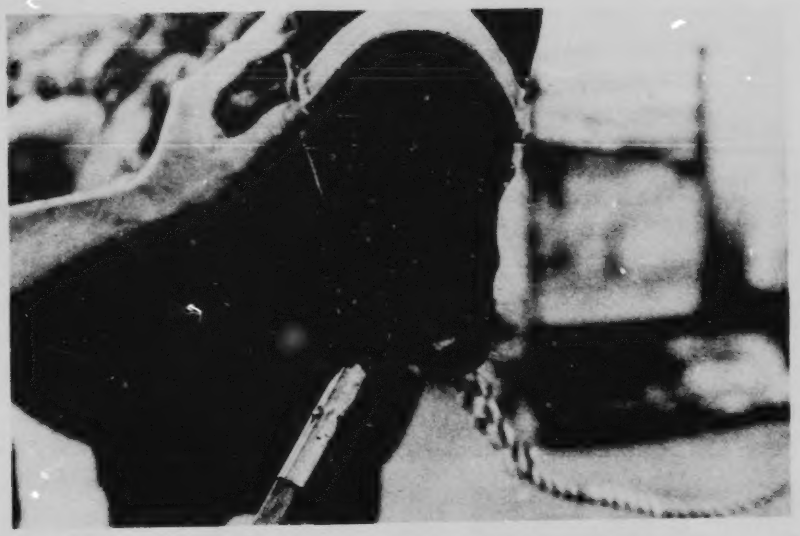
10. Identify the following methods of restraint when hand mating. Write the correct methods in the blanks provided.



a. ______________________________



b. ______________________________



c. ______________________________

d. ______________________________

386

11. Arrange in order the steps in hand mating. Place a "1" in front of the first step, a "2" in front of the second, and so on.

______a. Wrap tail with sterile gauze or clean leg wrap

______b. Wash stallion with mild soap and water; rinse thoroughly

______c. Groom stallion before placing back in stall or paddock

______d. Wash and rinse stallion as soon as he dismounts

______e. Allow stallion to work his way to the rear of mare

______f. Wash genital area of mare thoroughly; rinse thoroughly to remove all remaining soap

______g. Tease mare to insure that she is in heat

______h. Apply restraint methods to mare

______i. Let stallion get into breeding position; observe for flagging motion of tail to indicate ejaculation

______j. Walk mare for five minutes

______k. Allow stallion to mount on the left side of the mare to avoid being kicked

12. Select from the list below items to be included in record keeping during breeding season. Mark each correct answer with an "X."

______a. Reaction to stallion (if known)

______b. Length of estrus

______c. Number of days between estrus periods

______d. Date of first estrus

______e. Date of last estrus

______f. Whether mare is barren, maiden, or lactating

______g. Date and results of last culture

______h. Foaling process

______i. Any bad habits mare may possess

13. Name ways to detect pregnancy.

    a. ______________________________

    b. ______________________________

    c. ______________________________

    d. ______________________________

    e. ______________________________

14. Demonstrate the ability to:

    a. Prepare artificial vagina for collection.

    b. Prepare stallion for collection.

    c. Collect semen with artificial vagina.

    d. Evaluate semen.

    (NOTE: If the above activities have not been accomplished prior to the test, ask the instructor when they should be completed.)

BREEDING EFFICIENCY AND MATING PROCEDURES
UNIT II

ANSWERS TO TEST

1. a. 10
   b. 4
   c. 8
   d. 3
   e. 1
   f. 13
   g. 7
   h. 2
   i. 5
   j. 9
   k. 12
   l. 6
   m. 11

2. b, c, e, g

3. Descriptions should include:

   a. Artificial vagina--Device with leather covering and rubber inner lining to be filled with water to regulate temperature and pressure

   b. Condom--Large rubber device used to cover penis and collect semen during copulation

   c. Drippings from dismount--Collection of remainder of semen during dismount; usually caught in cup or small container

4. Description should include:

   a. Volume of ejaculate--Usually 50 to 150 ml

   b. Visual appraisal--Color of semen should be slightly cloudy and with consistency of light mineral oil, free of blood and foreign matter

   c. Microscopic examination--Used to determine the number of live spermatozoa, amount and rate of movement, and number of abnormal spermatozoa

      1) Motility--Number of spermatozoa; range of 65-90% is acceptable

      2) Rate of motility--Amount of movement of spermatozoa

      3) Concentration--Number of sperm cells per ml of semen; average concentration is 150-200 million per ml of semen

      4) Abnormal sperm count--Sample of semen with more than 20% abnormal sperm

5. Description should include:
   a. Age of puberty--Fifteen to eighteen months
   b. Age to breed mares--Not earlier than three years of age
   c. Estrus (heat cycle)--Approximately 21-day intervals but may vary 10-37 days; lasts 4-6 days; time of receptivity of stallion
   d. Ovulation--Rupture of follicle and release of egg from ovary; usually one day before or one day after mare goes out of estrus
   e. Gestation period--Time from conception until parturition; average is approximately 336 days, but may range 310-370 days
   f. Foal heat--Mares usually show signs of estrus 9-11 days after foaling; may vary 3-13 days.
6. b, d
7. a, b
8. a. Stallion
   1) 3
   2) 5
   3) 8
   4) 6
   5) 1
   6) 7
   7) 2
   8) 4

   b. Mare
   1) 4
   2) 1
   3) 5
   4) 3
   5) 2

9. a. Hand breeding--Stallion and mare are handled by individual handlers during breeding process

   b. Corral breeding--Mare and stallion are placed together in well-fenced corral

   c. Pasture breeding--Stallion is placed in pasture with band of mares

   d. Artificial insemination--Semen is collected from stallion and placed in reproductive tract of mare

10. a. Hobbles

    b. Sturdy leather halter with chain lead over nose, under chin, or in mouth

    c. Twitch

    d. Strapping a foreleg off the ground

11. a. 2

    b. 4

    c. 11

    d. 9

    e. 7

    f. 3

    g. 1

    h. 5

    i. 8

    j. 10

    k. 6

12. a, b, c, e, f, g, h, i

13. a. Cessation of heat period

    b. Rectal palpation

    c. Laboratory tests

    d. Movement of live fetus

    e. Enlargement of mare's stomach and flank area

14. Performance skills evaluated to the satisfaction of the instructor

CARE OF MARE AND FOAL
UNIT III

UNIT OBJECTIVE

After completion of this unit, the student should be able to care for the mare and foal through gestation, parturition, and weaning of the foal. This knowledge will be evidenced by completion of the assignment sheet and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with care of mare and foal to the correct definitions.
2. Name important items relating to care of mare during gestation.
3. Name noninfectious causes of abortion.
4. Match infectious causes of abortion to the correct descriptions.
5. Select from a list measures to take to prevent abortion.
6. List indications of approaching parturition.
7. Describe actions to take in the foaling process.
8. Match foal presentations to appropriate actions to take to correct situation and aid foaling process.
9. List essential characteristics of individual offering assistance in foaling process.
10. Select from a list foaling conditions requiring veterinarian's assistance.
11. Describe how to care for a newborn foal.
12. Describe how to care for a post partum mare.
13. Match complications following parturition to the correct descriptions.
14. List conditions that prevent breeding on foal heat.
15. Select from a list management practices important in caring for mare and foal from birth until weaning.

CARE OF MARE AND FOAL
UNIT III

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

- A. Provide student with objective sheet.
- B. Provide student with information and assignment sheets.
- C. Discuss unit and specific objectives.
- D. Discuss information and assignment sheets.
- E. Ask a farm manager from your area to speak to class.
- F. Plan field trip to breeding farm.
- G. Give test.

II. Instructional materials:

- A. Objective sheet
- B. Information sheet
- C. Assignment Sheet #1--Describe Actions to Take During Specific Stages of Parturition
- D. Test
- E. Answers to test

III. Unit references:

- A. Thomas, Heather Smith. "Trouble at Foaling Time." *Horseman Magazine.* January, 1975.
- B. Ensminger, M. E. *Horses and Horsemanship.* Danville, Illinois: Interstate Printers and Publishers, 1977.
- C. *Veterinary Treatments and Medications for Horsemen.* Grapevine, Texas: Equine Research Publications, 1977.

CARE OF MARE AND FOAL
UNIT III

INFORMATION SHEET

I. Terms and definitions

  A. Placenta--Membrane which attaches fetus to uterus

  B. Breech--Backward presentation of a foal in birth process; rear legs first

  C. Physiological causes--Natural causes within the chemical makeup of the body

  D. Colostrum--Milk secreted by dam for first few days following parturition; high in antibodies and nutritive value

  E. Laxative feeds--Feeds which have a tendency to soften fecal material

  Example: Bran mash

II. Important items relating to care of mare during gestation

  A. Nutrition

  B. Exercise

  C. Vaccinations

  D. Housing quarters

III. Noninfectious causes of abortion

  A. Malnutrition

  B. Ingestion of toxic materials

  C. Fatigue

  D. Injury

  E. Heredity

  F. Twinning

  G. Physiological causes

  Example: Hormone balance

INFORMATION SHEET

IV. Infectious causes of abortion

A. Streptococcus genitalium--Most prevalent bacteria which causes genital tract infection in horses

B. Salmonella abortivo-equinus (equine contagious abortion)--Digestive tract infection that can be controlled or prevented by vaccination

C. Equine virus abortion (rhinopneumonitis)--Respiratory tract infection; abortion usually occurs in last one-third of pregnancy

D. Brucella abortus--Contagious abortion which causes Bang's disease in cattle and Undulant fever in humans

E. Mycotic placentitis--Fungal infection caused by unsanitary breeding or examination procedures

V. Measures to take to prevent abortion

A. Avoid breeding infected mare or stallion

B. Use sanitary conditions in breeding procedure

C. Vaccinate all mares

D. Provide only clean water and clean nutritious ration

E. Provide proper exercise; avoid fatigue, strain, and excitement

F. Avoid situations and conditions that may cause injury

G. Have veterinarian check all barren mares

H. Submit all aborted materials for laboratory analysis

I. Disinfect immediate location thoroughly of aborted materials, including stall, feet of mare, and clothes of attendant

J. Isolate and quarantine animals until veterinarian approves release

VI. Indications of approaching parturition

A. Enlargement of udder ("makes a bag")

(NOTE: Stabled mares bag up more than pastured mares.)

B. Hip and abdomen muscles begin to sag and stretch in preparation for passage of foal

INFORMATION SHEET

C. Waxing of teats

D. Vulva enlargement; some may discharge mucus

E. Muscles and ligaments in and around pelvic area relax and become loose and flabby

F. Restlessness

G. Milk dripping from teats

H. Irritable behavior

I. Frequent passing of urine

J. Vigorously switching tail

K. Sweat around flanks and neck

L. Pawing ground

M. Half-heartedly biting and kicking at abdomen

N. Lying down and getting up

(CAUTION: There are times when all signs fail and a foal may be dropped when least expected.)

VII. Actions to take in the foaling process

A. Prepare sanitary and safe surroundings

(NOTE: If stall is prepared for foaling, it should be well bedded and at least 16' x 16'.)

B. Keep distractions to a minimum

C. Observe for signs of foaling

(NOTE: The immediate indications that a mare is about to foal are extreme nervousness and uneasiness, lying down and getting up, biting of sides and flanks, switching of tail, sweating in flanks, and frequent urination.)

D. Wrap tail and wash genital region of mare upon first signs of foaling

(NOTE: The first actual sign of foaling is the rupture of the outer fetal membrane, followed by the escape of a large amount of fluid.)

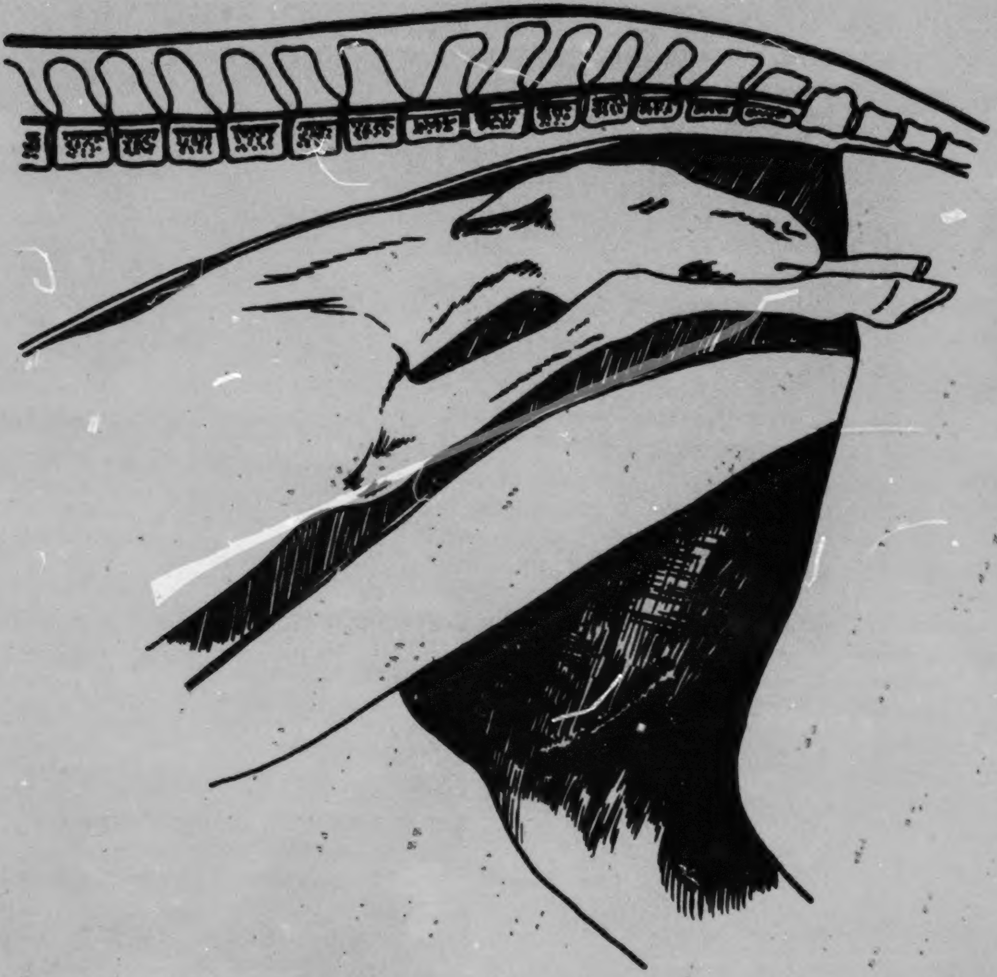
INFORMATION SHEET

E. Give mare adequate time to foal

(NOTE: With normal presentation, a mare foals rapidly, usually not taking more than 15 to 30 minutes.)

VIII. Foal presentations

A. Normal presentation--Back of fetus is toward back of mother, forelegs are extended toward vulva with heels down, and nose rests between forelegs



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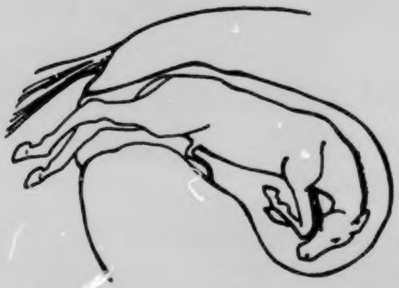
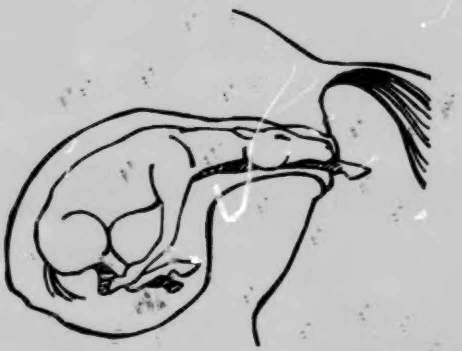
INFORMATION SHEET

B. Normal rear presentation with rear legs coming first (breech birth)--Foal must be delivered in this position

(CAUTION: Although foal can be delivered in this position, you should assist mare as she strains. If birth takes too long, the foal may suffocate in fluids of fetal membrane.)



C. Abnormal presentation with one front foot back--Foot must be pushed back to get other leg into birth canal



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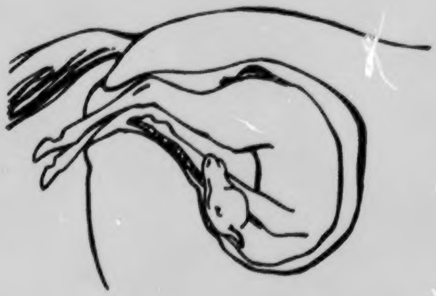
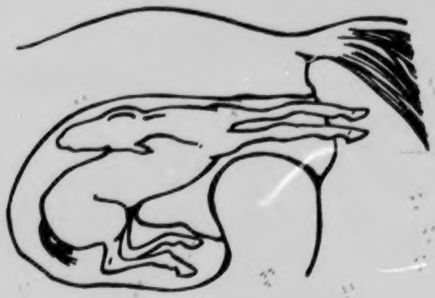
INFORMATION SHEET

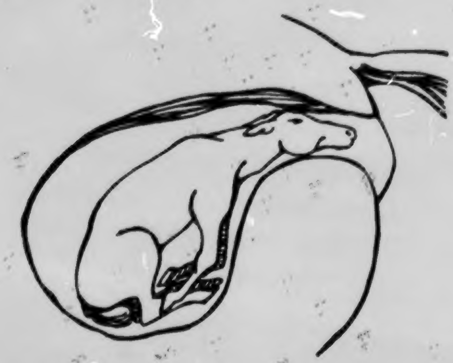
D. Abnormal rear presentation with front feet and head also being presented--Front feet and foal must be pushed back and foal delivered breech



E. Abnormal front presentation with head turned back and up--Foal must be pushed back and head brought into birth canal



F. Abnormal presentation with front legs back--Front legs must be brought into birth canal



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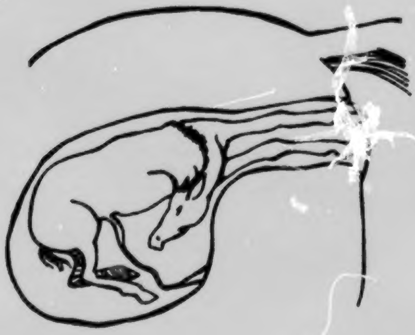
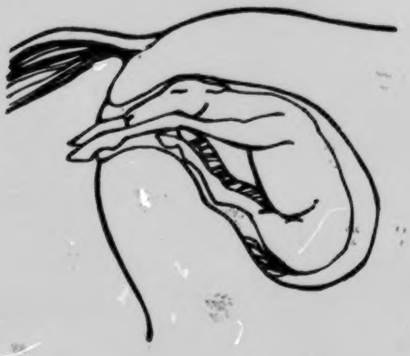
INFORMATION SHEET

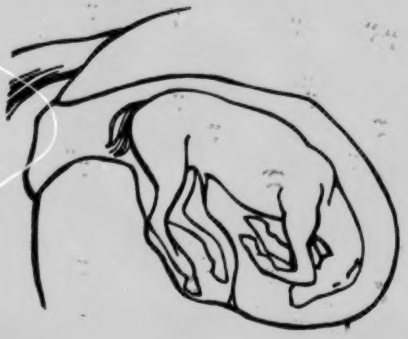
G. Abnormal presentation with head turned back and down--Foal must be pushed back and head brought into birth canal



H. Abnormal front presentation with hind feet in birth canal--Hind feet must be pushed back



I. Abnormal rear presentation--Hind feet must be brought into birth canal, but difficult because it is hard to push foal forward far enough to get hind feet up over brim of pelvis



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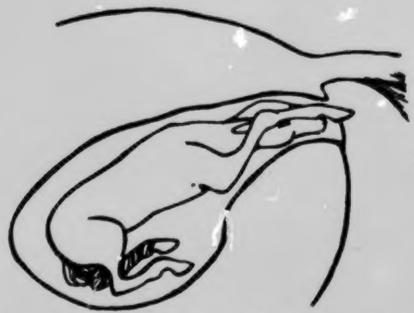
INFORMATION SHEET

J. Abnormal presentation with front legs over head--Foal must be pushed back until legs can be straightened



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IX. Essential characteristics of individual offering assistance in foaling process

A. Clean

B. Quiet

C. Gentle

D. Perseverant

E. Knowledgeable

F. Skillful

G. Experienced

X. Foaling conditions requiring veterinarian's assistance

A. Hard labor with no results

(NOTE: Wait no longer than twenty minutes before contacting veterinarian.)

B. Slow and difficult labor or delivery

(NOTE: Anything exceeding 30 minutes from rupture of fetal membrane is considered slow and difficult.)

C. Mare and/or foal failing to get up within an hour

D. Foal fails to nurse within two hours

E. Mare refuses to accept foal

F. Hemorrhaging of mare from vulva or foal from navel stump

G. Placenta retained for more than two hours

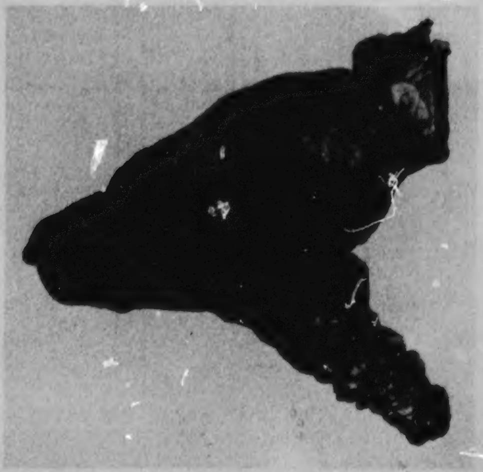
INFORMATION SHEET

H. Weakness of mare and/or foal

I. Failure of foal to have bowel movement within six hours after birth

J. Placenta passed and not intact

(NOTE: Placenta should be laid out and examined to insure that all of placenta has been expelled. The picture below shows a placenta that is intact.)



XI. Caring for a newborn foal

A. Check to make sure foal is breathing and respiratory tract is free of excess fluids and congestion

B. Allow foal to rest 10-15 minutes after delivery

C. Let foal remain attached to placenta until navel cord is broken by mare or foal

(CAUTION: Premature breakage of the cord will result in a loss of one to two pints of blood.)

D. Treat stump of navel, after cord breaks, by soaking in a small container of iodine

E. Allow mare to lick foal

F. Make certain foal nurses within 6 hours

(NOTE: Colostrum is readily available and absorbed during this period of time.)

G. Give injection of penicillin-streptomycin for precautionary measure

INFORMATION SHEET

H. Give tetanus injection

(NOTE: Exclude tetanus injection if mare was given tetanus toxoid injection one month prior to foaling and foal received colostrum.)

I. Give enema

J. Observe foal closely for first few days to detect any complications that might require immediate attention

XII. Caring for post partum mare

A. Check for lacerations and tears caused during foaling process

B. Examine udder for milk

C. Make available lukewarm water to drink

(CAUTION: Do not allow mare to drink excessively.)

D. Observe for shedding of placenta

E. Give tetanus injection

(NOTE: The mare should receive a tetanus antitoxin injection, unless on a regular immunization program. Vaginal lacerations, no matter how small, can become infected.)

F. Wash udder with warm water

G. Feed laxative feeds for first few days following foaling

(NOTE: Length of time will depend upon amount of soreness exhibited by mare.)

XIII. Complications following parturition

A. Lacerations and tears--Wounds of vulva caused by foal being too large or abnormal presentation of foal

B. Foal colic--Contraction of uterus following foaling

C. Retained placenta--Failure of "afterbirth" to separate from uterus following foaling

D. Post partum hemorrhage--Rupture of uterine arteries

E. Foal founder--Small amount of placenta remaining in uterus following mare's expulsion of afterbirth

F. Failure to come to milk--Hormone imbalance sometimes corrected by foal attempting to nurse

INFORMATION SHEET

XIV. Conditions that prevent breeding on foal heat

- A. Placenta retained over two hours and weighing more than 14 pounds
- B. Lacerations of reproductive tract not healed
- C. Severe bruises, particularly of the cervix
- D. Exudate or urine present in vagina
- E. Discolored or congested mucous membrane
- F. Uterus lacks tone

XV. Management practices important in caring for mare and foal from birth until weaning

- A. Feed high levels of nutrition
- B. Observe closely for disease and/or injury
- C. Deworm at eight-week intervals
- D. Creep feed foal
- E. Group with other mares and foals

  (CAUTION: Avoid pasturing with barren or maiden mares.)
- F. Gentle or handle foals so deworming medication and/or other medications may be administered and feet trimmed
- G. Wean foals by complete separation of mare and foal

  (NOTE: The optimum time is from 4 to 6 months of age.)
- H. Wean entire foal crop at same time

  (NOTE: This may not be possible if foaling dates are too widely spread.)

CARE OF MARE AND FOAL
UNIT III

ASSIGNMENT SHEET #1--DESCRIBE ACTIONS TO TAKE DURING SPECIFIC STAGES OF PARTURITION

Describe actions to take in the following situations.

1. Signs of approaching parturition.

____

____

____

____

____

____

2. Mare has been in labor for 45 minutes.

____

____

____

____

____

____

3. Abnormal presentation of foal with only one front leg in correct position.

____

____

____

____

____

____

ASSIGNMENT SHEET #1

4. Foal fails to nurse within three hours.

____

____

____

____

____

____

5. Retained placenta.

____

____

____

____

____

____

CARE OF MARE AND FOAL
UNIT III

TEST

NAME ______________________ SCORE ____________

1. Match terms associated with care of mare and foal to the correct definitions by placing the appropriate numbers in the blanks provided.

_____a. Backward presentation of a foal in birth process; rear legs first

_____b. Feeds which have a tendency to soften fecal material

_____c. Membrane which attaches fetus to uterus

_____d. Natural causes within the chemical makeup of the body

_____e. Milk secreted by dam for first few days following parturition; high in antibodies and nutritive value

1. Breech
2. Placenta
3. Physiological causes
4. Colostrum
5. Laxative feeds

2. Name important items relating to care of mare during gestation.

a. ______________________

b. ______________________

c. ______________________

d. ______________________

3. Name noninfectious causes of abortion.

a. ______________________

b. ______________________

c. ______________________

d. ______________________

e. ______________________

f. ______________________

g. ______________________

4. Match infectious causes of abortion to the correct descriptions by placing the appropriate numbers in the blanks provided.

_____ a. Respiratory tract infection; abortion usually occurs in last one-third of pregnancy

_____ b. Most prevalent bacteria which causes genital tract infection in horses

_____ c. Contagious abortion which causes Bang's disease in cattle and Undulant fever in humans

_____ d. Fungal infection caused by unsanitary breeding or examination procedures

_____ e. Digestive tract infection that can be controlled or prevented by vaccination

1. Streptococcus genitalium
2. Salmonella abortivo-equinus (equine contagious abortion)
3. Equine virus abortion (rhinopneumonitis)
4. Brucella abortus
5. Mycotic placentitis

5. Select from the list below measures to take to prevent abortion. Mark each correct answer with an "X."

_____ a. Use special sanitary precautions when breeding an infectious mare or stallion

_____ b. Submit all aborted materials for laboratory analysis

_____ c. Vaccinate all mares

_____ d. Isolate and quarantine animals until veterinarian approves release

_____ e. Avoid situations and conditions that may cause injury

_____ f. Provide only clean water and clean nutritious ration

_____ g. Provide proper exercise; avoid fatigue, strain, and excitement

_____ h. Disinfect immediate location thoroughly of aborted materials, including stall, feet of mare, and clothes of attendant

_____ i. Have veterinarian check all barren mares

6. List eight indications of approaching parturition.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e. ______________________________

f. ______________________________

g. ______________________________

h. ______________________________

7. Describe actions to take in the foaling process.

____

____

____

____

____

____

8. Match foal presentations to appropriate actions to take to correct situation and aid foaling process. Place the appropriate numbers in the blanks provided. A blank may have more than one correct answer.

______a. Hind feet must be pushed back

______b. Foal must be pushed back and head brought into birth canal

______c. Front legs must be brought into birth canal

______d. Foal must be pushed back to get other leg into birth canal

______e. Foal must be pushed back until legs can be straightened

______f. Front feet and foal must be pushed back and foal delivered breech

______g. Hind feet must be brought into birth canal, but difficult because it is hard to push foal forward far enough to get hind feet up over brim of pelvis

______h. Foal must be delivered in this position

______i. Back of fetus is toward back of mother, forelegs are extended toward vulva with heels down, and nose rests between forelegs

1. Abnormal presentation with one front foot back
2. Abnormal rear presentation with front feet and head also being presented
3. Abnormal front presentation with head turned back and up
4. Abnormal presentation with front legs back
5. Abnormal presentation with head turned back and down
6. Abnormal front presentation with hind feet in birth canal
7. Abnormal rear presentation
8. Abnormal presentation with front legs over head
9. Normal rear presentation with rear legs coming first (breech birth)
10. Normal presentation

9. List essential characteristics of individual offering assistance in foaling process.

   a. ______________________________

   b. ______________________________

   c. ______________________________

   d. ______________________________

   e. ______________________________

   f. ______________________________

   g. ______________________________

10. Select from the list below foaling conditions requiring veterinarian's assistance. Place an "X" in the appropriate blanks.

    ______a. Weakness of mare and/or foal

    ______b. Mare refuses to accept foal

    ______c. Mare and/or foal failing to get up within twelve hours

    ______d. Foal fails to nurse within twelve hours

    ______e. Hemorrhaging of mare from vulva or foal from navel stump

    ______f. Slow and difficult labor or delivery

    ______g. Hard labor with no results

    ______h. Placenta retained for more than 30 minutes

    ______i. Failure of foal to have bowel movement within 30 minutes after birth

    ______j. Placenta passed and not intact

11. Describe how to care for a newborn foal.

    ____

    ____

    ____

    ____

    ____

    ____

    ____

    ____

    ____

12. Describe how to care for post partum mare.

13. Match complications following parturition to the correct descriptions by placing the appropriate numbers in the blanks provided.

______a. Small amount of placenta remaining in uterus following mare's expulsion of after-birth

______b. Contraction of uterus following foaling

______c. Wounds of vulva caused by foal being too large or abnormal presentation of foal

______d. Hormone imbalance sometimes corrected by foal attempting to nurse

______e. Rupture of uterine arteries

______f. Failure of "afterbirth" to separate from uterus following foaling

1. Lacerations and tears
2. Foal colic
3. Retained placenta
4. Post partum hemorrhage
5. Foal founder
6. Failure to come to milk

14. List conditions that prevent breeding on foal heat.

a. ______

b. ______

c. ______

d. ______

e. ______

f. ______

15. Select from the list below management practices important in caring for mare and foal from birth until weaning. Place an "X" in the appropriate blanks.

______a. Gentle or handle foals so deworming medication and/or other medications may be administered and feet trimmed

______b. Deworm at two-week intervals

______c. Creep feed foal

______d. Wean foals by gradually increased periods of separation from mares _____e. Wean foals in two-week intervals using respective foaling dates

_____f. Group approximately one-half of mares and foals in pasture with maiden mares

_____g. Observe closely for disease and/or injury

_____h. Feed high levels of nutrition

CARE OF MARE AND FOAL
UNIT III

ANSWERS TO TEST

1. a. 1
   b. 5
   c. 2
   d. 3
   e. 4
2. a. Nutrition
   b. Exercise
   c. Vaccinations
   d. Housing quarters
3. a. Malnutrition
   b. Ingestion of toxic materials
   c. Fatigue
   d. Injury
   e. Heredity
   f. Twinning
   g. Physiological causes
4. a. 3
   b. 1
   c. 4
   d. 5
   e. 2
5. b, c, d, e, f, g, h, i

6. Any eight of the following:
   a. Enlargement of udder ("makes a bag")
   b. Hip and abdomen muscles begin to sag and stretch in preparation for passage of foal
   c. Waxing of teats
   d. Vulva enlargement; some may discharge mucus
   e. Muscles and ligaments in and around pelvic area relax and become loose and flabby
   f. Restlessness
   g. Milk dripping from teats
   h. Irritable behavior
   i. Frequent passing of urine
   j. Vigorously switching tail
   k. Sweat around flanks and neck
   l. Pawing ground
   m. Half-heartedly biting and kicking at abdomen
   n. Lying down and getting up
7. Description should include:
   a. Prepare sanitary and safe surroundings
   b. Keep distractions to a minimum
   c. Observe for signs of foaling
   d. Wrap tail and wash genital region of mare upon first signs of foaling
   e. Give mare adequate time to foal
8. a. 6
   b. 3, 5
   c. 4
   d. 1

e. 8

f. 2

g. 7

h. 9

i. 10

9. a. Clean

   b. Quiet

   c. Gentle

   d. Perseverant

   e. Knowledgeable

   f. Skillful

   g. Experienced

10. a, b, e, f, g, j

11. Description should include:

    a. Check to make sure foal is breathing and respiratory tract is free of excess fluids and congestion

    b. Allow foal to rest 10-15 minutes after delivery

    c. Let foal remain attached to placenta until navel cord is broken by mare or foal

    d. Treat stump of navel, after cord breaks, by soaking in a small container of iodine

    e. Allow mare to lick foal

    f. Make certain foal nurses within 6 hours

    g. Give injection of penicillin-streptomycin for precautionary measure

    h. Give tetanus injection

    i. Give enema

    j. Observe foal closely for first few days to detect any complications that might require immediate attention

12. Description should include:
    - a. Check for lacerations and tears caused during foaling process
    - b. Examine udder for milk
    - c. Make available lukewarm water to drink
    - d. Observe for shedding of placenta
    - e. Give tetanus injection
    - f. Wash udder with warm water
    - g. Feed laxative feeds for first few days following foaling

13. a. 5
    - b. 2
    - c. 1
    - d. 6
    - e. 4
    - f. 3

14. a. Placenta retained over two hours and weighing more than 14 pounds
    - b. Lacerations of reproductive tract not healed
    - c. Severe bruises, particularly of cervix
    - d. Exudate or urine present in vagina
    - e. Discolored or congested mucous membrane
    - f. Uterus lacks tone

15. a, c, g, h

SELECTING AND MARKETING THE HORSE
UNIT I

UNIT OBJECTIVE

After completion of this unit, the student should be able to describe the important factors in selecting a horse; determine age, height, weight, girth, and bone; and list means of marketing the horse. This knowledge will be evidenced by completion of the job sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with selecting and marketing the horse.
2. List general considerations in selecting a horse.
3. Identify parts of the horse.
4. Match parts of the skeletal system to the correct names.
5. Identify common leg markings.
6. Identify common head markings.
7. Match natural gaits to their correct descriptions.
8. Describe normal measurements pertinent to a horse.
9. Complete a chart on numbers of teeth of mature and young horses.
10. Describe change in horse's teeth with advancing age.
11. Complete a chart on determining age of horse by appearance and description of teeth.
12. List means of marketing the horse.
13. Demonstrate the ability to:
    a. Determine age of horse by examining teeth.
    b. Determine height, weight, girth, and bone.

SELECTING AND MARKETING THE HORSE
UNIT I

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide students with objective sheet.

   B. Provide students with information and job sheets.

   C. Discuss information sheet.

   D. Secure horses or visit farm/ranch in order for students to observe common head and leg markings.

   E. Secure horses or visit farm/ranch for students to determine age, height, weight, girth, and bone of horse for Job Sheets #1 and #2.

   F. Have students practice identifying parts of the horse using the following method. Use with objective three.

      1. Write numbers on masking tape.

      2. Place numbered pieces of masking tape on horse.

      3. Give students numbered sheet and have them write the parts of horse that correspond to the numbers.

   G. Demonstrate and discuss procedures outlined in job sheets.

   H. Give test.

   (NOTE: Because of the length and amount of recall in this examination, it is recommended that the test be given in three or more testing periods. For example, it is suggested that you test separately on objectives three, four, and eleven.)

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Transparency master: TM 1--Horse's Tooth

   D. Job sheets

      1. Job Sheet #1--Determine Age of Horse by Examining Teeth

      2. Job Sheet #2--Determine Height, Weight, Girth, and Bone

   E. Test

   F. Answers to test

III. Unit references:

A. Prince, Eleanor F., and Collier, Gaydell M. *Basic Horsemanship: English and Western.* Garden City, New York: Doubleday and Company, Inc., 1974.

B. Ensminger, M. E. *Horses and Horsemanship.* Danville, Illinois: Interstate Printers and Publishers, 1977.

C. Evans, J. Warren; Borton, Anthony; Hintz, Harold F.; Van Vleck, L. Dale. *The Horse.* San Francisco: W. H. Freeman and Company, 1977.

SELECTING AND MARKETING THE HORSE
UNIT I

INFORMATION SHEET

I. Terms and definitions

   A. Gait--Particular way of going, either natural or acquired, which is characterized by a distinctive rhythmic movement of the feet and legs

   B. Conformation--Body shape or form

   C. Sound--Horse free from injury or lameness; horse that is guaranteed free from blemishes and unsoundness

   D. Pedigree--Record of the ancestry of an animal

II. General considerations in selecting a horse

   A. Use

   B. Soundness

   C. Conformation

   D. Size

   E. Breed

   F. Pedigree

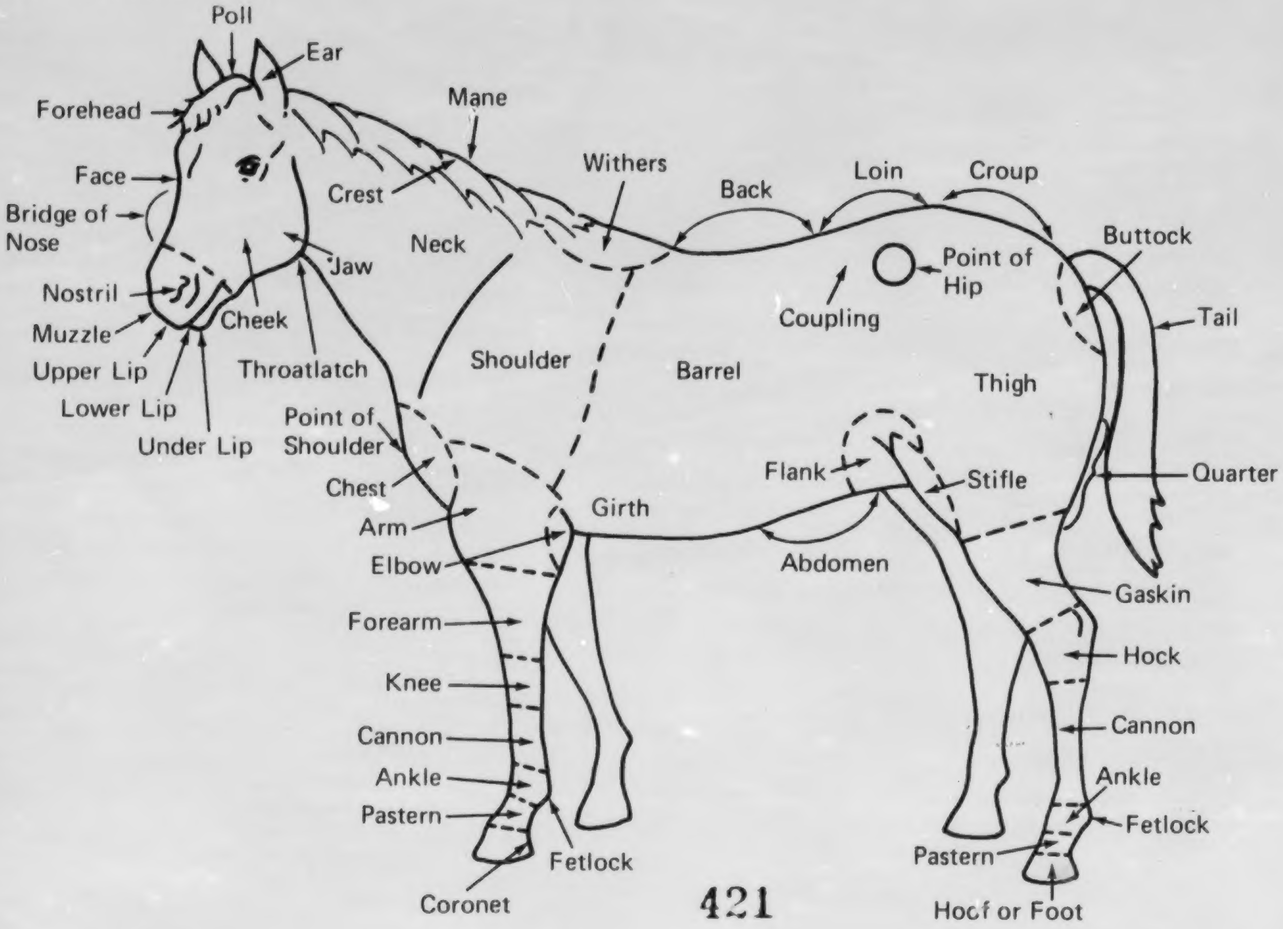
   G. Sex

   H. Color

   I. Cost

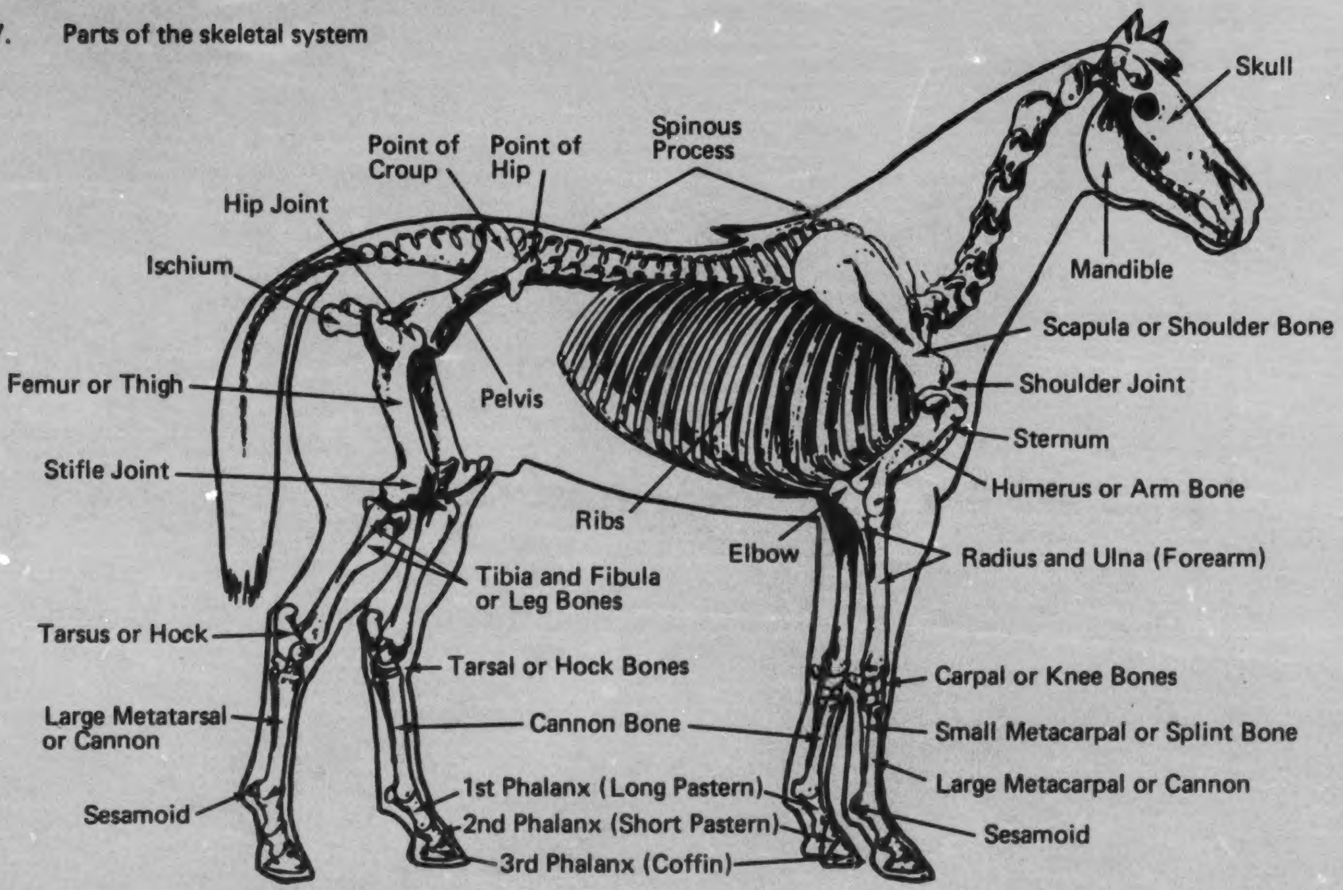
INFORMATION SHEET

Parts of the horse


Poll
Ear
Forehead
Mane
Face
Crest
Withers
Back
Loin
Croup
Bridge of Nose
Neck
Jaw
Buttock
Point of Hip
Nostril
Coupling
Tail
Muzzle
Cheek
Upper Lip
Throatlatch
Shoulder
Barrel
Thigh
Lower Lip
Point of Shoulder
Under Lip
Flank
Stifle
Quarter
Chest
Girth
Arm
Elbow
Abdomen
Gaskin
Forearm
Hock
Knee
Cannon
Cannon
Ankle
Ankle
Pastern
Fetlock
Fetlock
Pastern
Coronet
Hoof or Foot

INFORMATION SHEET

IV. Parts of the skeletal system

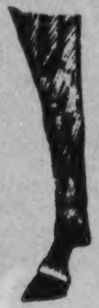

Skull
Point of Croup
Point of Hip
Spinous Process
Hip Joint
Ischium
Mandible
Scapula or Shoulder Bone
Femur or Thigh
Pelvis
Shoulder Joint
Sternum
Stifle Joint
Humerus or Arm Bone
Ribs
Elbow
Radius and Ulna (Forearm)
Tibia and Fibula or Leg Bones
Tarsus or Hock
Tarsal or Hock Bones
Carpal or Knee Bones
Large Metatarsal or Cannon
Cannon Bone
Small Metacarpal or Splint Bone
Large Metacarpal or Cannon
Sesamoid
1st Phalanx (Long Pastern)
2nd Phalanx (Short Pastern)
Sesamoid
3rd Phalanx (Coffin)

INFORMATION SHEET

V. Common leg markings

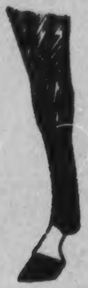
A. Coronet

(NOTE: The coronet marking is a white strip covering the coronet band.)



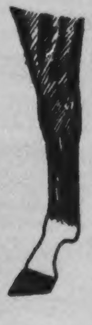
B. Pastern

(NOTE: The pastern marking is a white area extending from coronet to and including pastern.)



C. Ankle

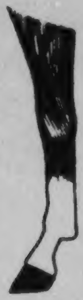
(NOTE: The ankle marking is a white area extending from coronet to and including fetlock.)



INFORMATION SHEET

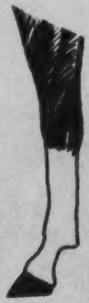
D. Sock or half-stocking

(NOTE: The sock or half-stocking is a white area from coronet to middle of cannon.)



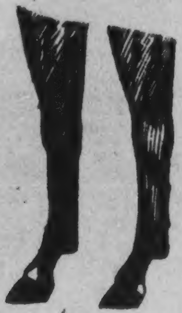
E. Stocking

(NOTE: The stocking is a white area from coronet to knee.)



F. White marks or spots

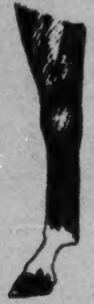
(NOTE: These are white marks or spots on front of coronet or heel.)



INFORMATION SHEET

G. Distal spots

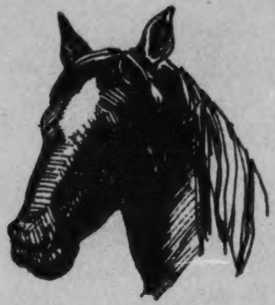
(NOTE: Distal spots are dark spots on a white coronet band.)



VI. Head markings

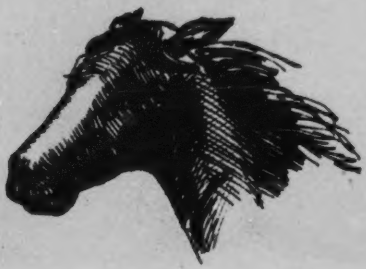
A. Star

(NOTE: The star is any white mark on forehead located above a line running from eye to eye.)



B. Strip

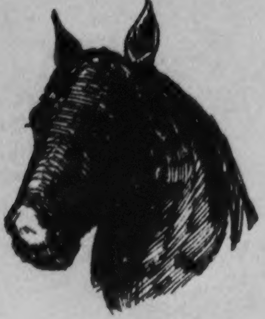
(NOTE: The strip is a narrow white marking that extends from about the line of the eyes to the nostrils.)



INFORMATION SHEET

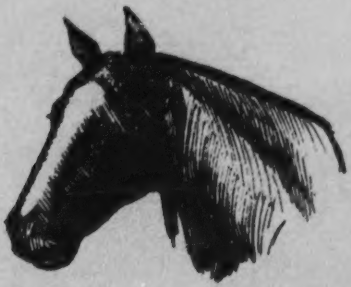
C. Snip

(NOTE: This is a narrow patch of white down over the muzzle.)



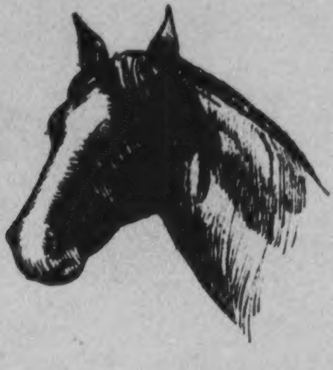
D. Star and stripe

(NOTE: This includes both the star and the stripe. They may or may not be connected.)



E. Star, stripe, and snip

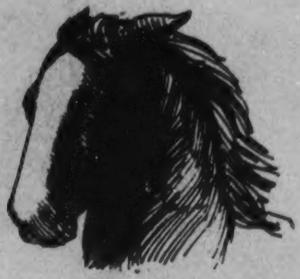
(NOTE: This includes all three markings. They may or may not be connected.)



INFORMATION SHEET

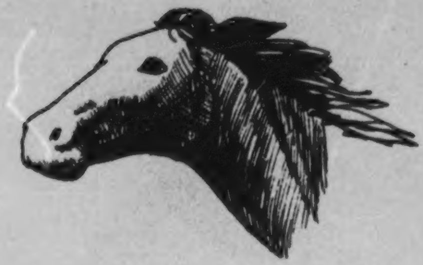
F. Blaze

(NOTE: This is a wider patch of white down the face covering the full width of the nasal bones.)



G. Bald

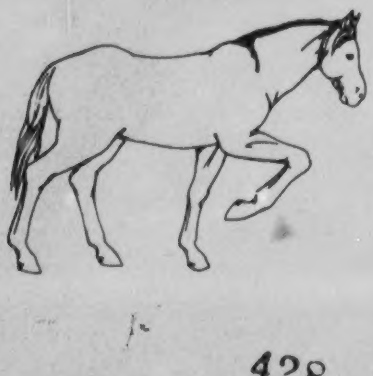
(NOTE: This is an even wider patch of white covering front of face, eyes, and nostrils.)



VII. Natural gaits of a horse

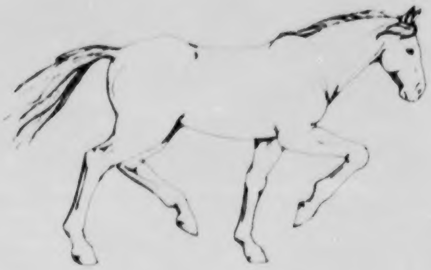
(NOTE: Of the natural gaits, most horses possess only the walk, trot or pace, and canter.)

A. Walk--Slow, four-beat gait in which all four feet are working independently

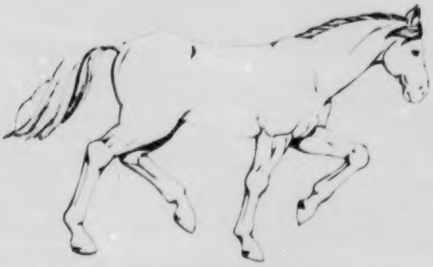


INFORMATION SHEET

B. Trot--Even, two-beat gait; diagonal front and rear feet work together

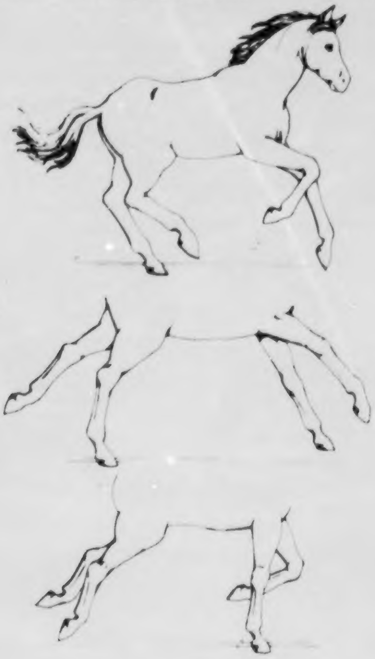


C. Pace--Even, two-beat gait; lateral front and rear feet work together



D. Canter--Natural, three-beat gait; opposite front from lead and rear with lead working together and other two legs working independently

Example: Right lead would find near hind, off hind and near fore together, and off fore as sequence of hoof beats



INFORMATION SHEET

VIII. Normal measurements pertinent to a horse

A. Height--Determined by measuring vertical distance from withers to ground; usually expressed in "hands," each "hand" being four inches

Example: Horse 58" is said to be 14-2 hands (14 hands and 2 inches) high

B. Weight--Best determined by placing animal on scales; approximation may be made with weight tape; expressed in pounds

C. Girth--Circumference of chest behind withers and in front of back; expressed in inches

D. Bone--Usually expressed in inches by measuring circumference of cannon bone

IX. Number of teeth

TYPES OF TEETH	NUMBER OF TEETH OF MATURE HORSE		NUMBER OF TEETH OF YOUNG HORSE	
	Male	Female	Male	Female
Molars or Grinders	24	24	12	12
Incisors or Front Teeth	12	12	12	12
Canines (appear between 4-5 years of age)	4	--	--	--
TOTAL	40	36	24	24

X. Changes in horse's teeth with advancing age (Transparency 1)

A. Slant out toward front

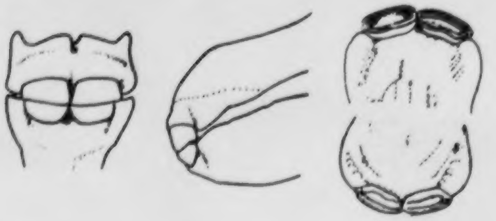
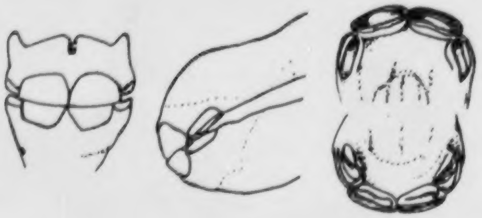
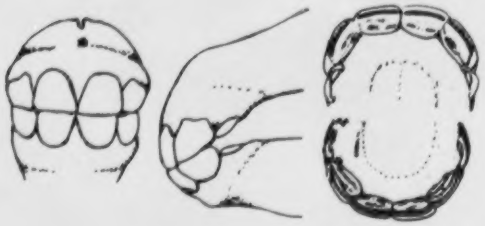
B. Change in wearing surface

C. Change in shape of cups

D. Change in shape of dental star and tooth

INFORMATION SHEET

XI. Determining age of horse by appearance and description of teeth

Drawing of Teeth	Age of Animal	Description of Teeth
	Birth to 1 month	Central temporary incisors appear
	1 to 3 months	Lateral or intermediate temporary incisors appear
	8 to 9 months	Third or corner temporary incisors appear

Appearance of temporary teeth

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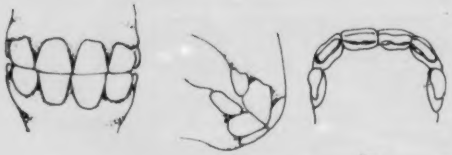
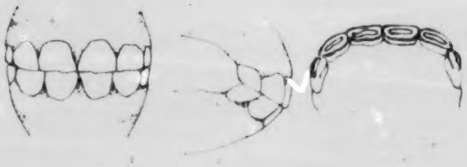
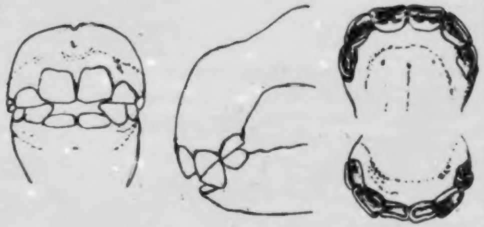
INFORMATION SHEET

Drawing of Teeth	Age of Animal	Description of Teeth	
	1 year of age	All temporary incisors have appeared with central incisors showing wear	Wear of temporary teeth
	2 years of age	Shows full mouth of incisors; all are now in wear	
	2 1/2 years of age	Central permanent incisors replace temporary	Appearance of first permanent teeth

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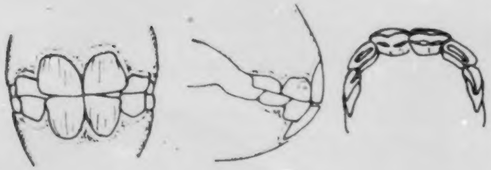
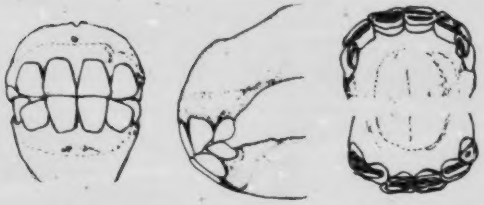
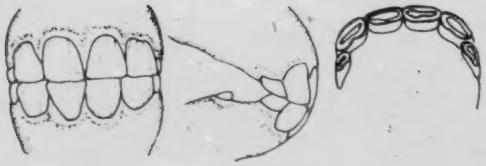
INFORMATION SHEET

Drawing of Teeth	Age of Animal	Description of Teeth	
	3 years of age	Has central permanent up and in wear	Appearance of permanent teeth
	3 1/2 years of age	Lateral or intermediate permanent incisors appear	
	4 years of age	Central and lateral permanent in wear	

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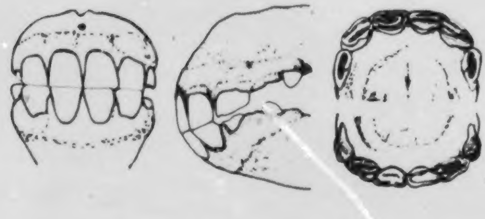
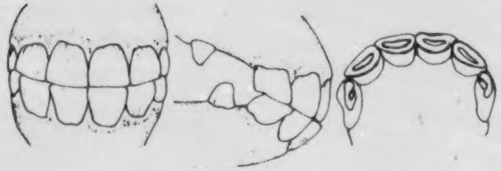
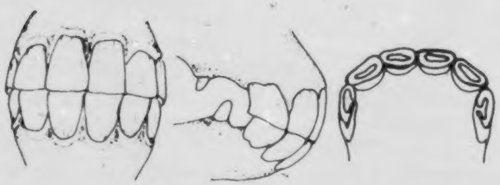
INFORMATION SHEET

Drawing of Teeth	Age of Animal	Description of Teeth
	4 1/2 years of age	Third or corner permanent incisors appear; canine teeth appear in males at 4-5 years of age
	5 years of age	Full mouth of permanent incisors in wear
	6 years of age	All show a central infundibular depression or "cup"

Appearance of permanent teeth

Wear of permanent teeth

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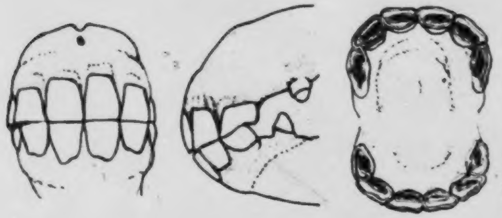
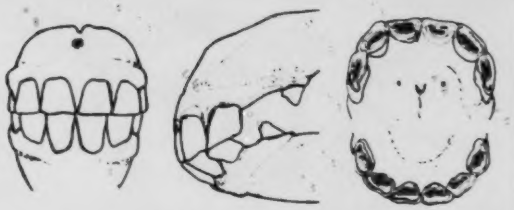
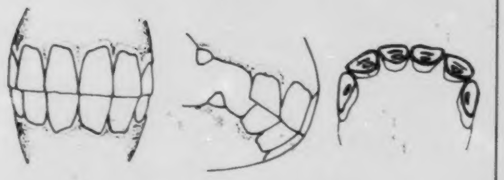
INFORMATION SHEET

Drawing of Teeth	Age of Animal	Description of Teeth	
	7 years of age	Cups also worn out of lower central incisors	Wear of permanent teeth
	8 years of age	Cups worn out of lateral incisors, and dental "star" appears on lower incisors	
	9 years of age	Cups also worn out of all lower and central upper incisors, and dental "star" appears on upper laterals as well as centrals; low central incisors practically triangular	

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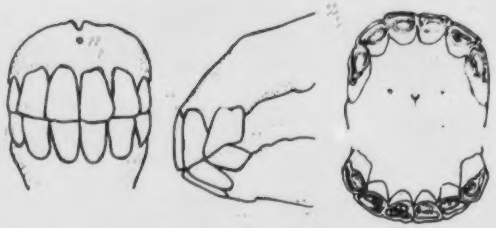
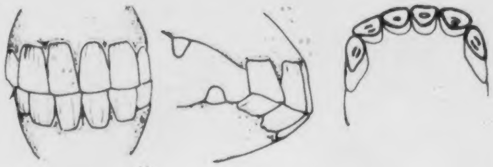
INFORMATION SHEET

Drawing of Teeth	Age of Animal	Description of Teeth
	10 years of age	Cups also worn out of upper laterals, and dental "star" is present on all incisors both upper and lower; upper and lower incisors have begun to slope forward
	11 to 12 years of age	Cups worn out of all upper and lower incisors, and dental "star" approaches center of cups; "smooth mouthed"

Wear of
permanent
teeth

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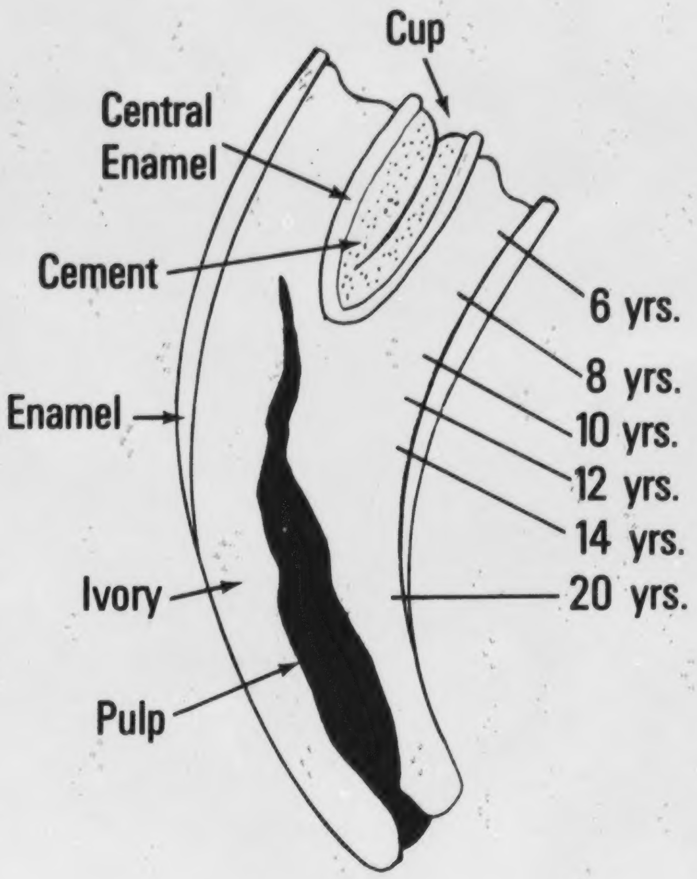
INFORMATION SHEET

XII. Means of marketing the horse

- A. Individual
- B. Consign to agent
- C. Public sale
- D. Advertise in magazine and/or newspaper

Horse's Tooth


Cup
Central Enamel
Cement
Enamel
Ivory
Pulp
6 yrs.
8 yrs.
10 yrs.
12 yrs.
14 yrs.
20 yrs.

444

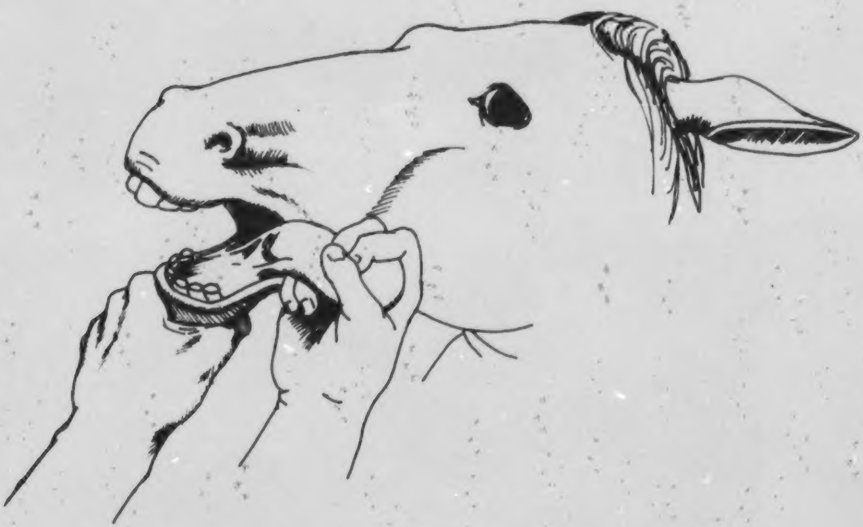
SELECTING AND MARKETING THE HORSE
UNIT I

JOB SHEET #1--DETERMINE AGE OF HORSE BY EXAMINING TEETH

I. Equipment and materials--Three horses of different ages

II. Procedure

A. Grasp lower jaw with left hand and tongue with right hand (Figure 1)



B. Observe teeth to determine age

C. Move to other horses and follow same procedure as in steps A and B

SELECTING AND MARKETING THE HORSE
UNIT I

JOB SHEET #2--DETERMINE HEIGHT, WEIGHT, GIRTH, AND BONE

I. Equipment and materials

- A. Horses, three
- B. Measuring stick
- C. Measuring tape
- D. Weight tape or scales

II. Procedure

- A. Determine height of each horse by placing stick on ground and cross-member over withers

  (NOTE: Make sure horse is standing squarely and on level ground.)

- B. Determine weight by measuring with weight tape or by placing horse on scales
- C. Determine girth and bone by measuring with tape
- D. Move to other horses and follow same procedure as in Steps A-C

SELECTING AND MARKETING THE HORSE
UNIT I

TEST

NAME ______________________________ SCORE ______________

1. Define the following terms associated with selecting and marketing the horse.

   a. Sound--______________________________

   b. Conformation--______________________________

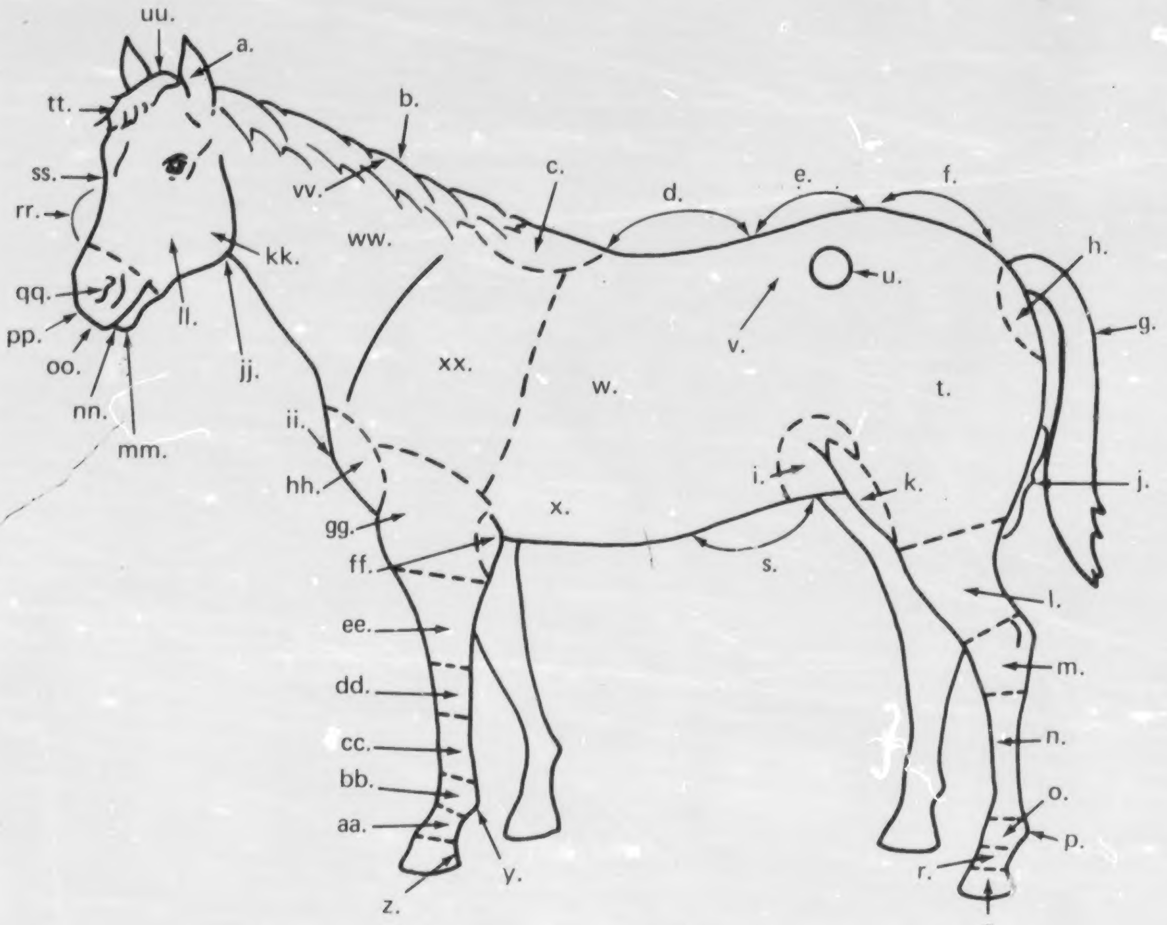
   c. Pedigree--______________________________

   d. Gait--______________________________

2. List six general considerations in selecting a horse.

   a. ______________________________
   b. ______________________________
   c. ______________________________
   d. ______________________________
   e. ______________________________
   f. ______________________________

3. Identify the parts of the horse below by writing the correct names in the blanks provided on the next page.


uu.
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dd.
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bb.
o.
aa.
p.
r.
y.
z.
q.

a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

e ______________________________

f. ______________________________

g. ______________________________

h. ______________________________

i. ______________________________

j. ______________________________

k. ______________________________

l. ______________________________

m. ______________________________

n. ______________________________

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v. ______________________________

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z. ______________________________

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bb. ______________________________

cc. ______________________________

dd. ______________________________

ee. ______________________________

ff. ______________________________

gg. ______________________________

hh. ______________________________

ii. ______________________________

jj. ______________________________

kk. ______________________________

ll. ______________________________

mm. ______________________________

nn. ______________________________

oo. ______________________________

pp. ______________________________

qq. ______________________________

rr. ______________________________

ss. ______________________________

tt. ______________________________

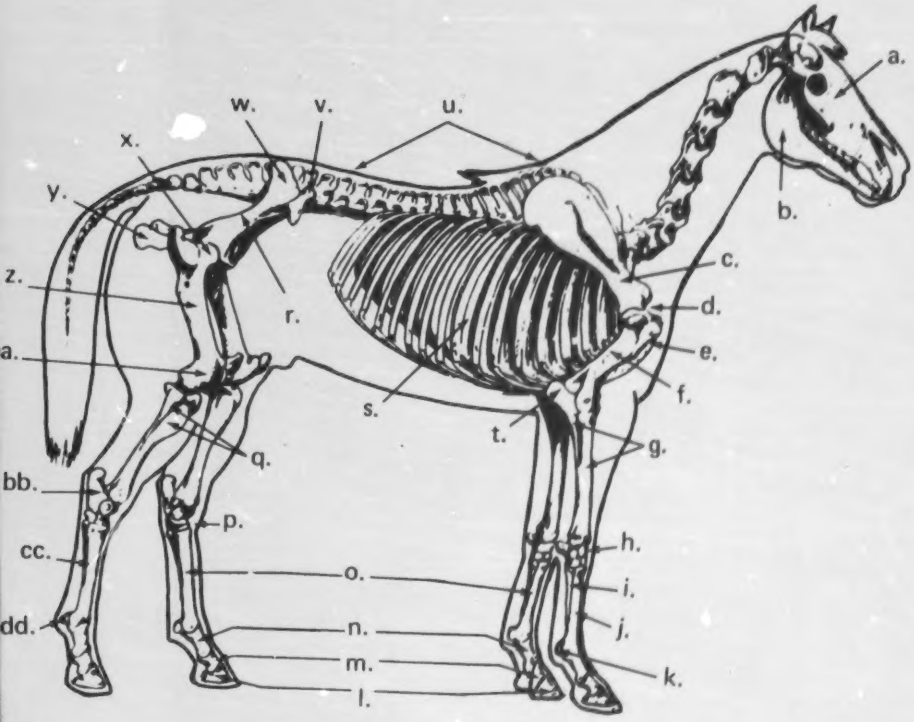
uu. ______________________________

vv. ______________________________

ww. ______________________________

xx. ______________________________

4. Match the parts of the skeletal system to the correct names. Write the correct names in the blanks provided on the next page. An answer may be used more than once.



Ribs
Small metacarpal or splint bone
Scapula or shoulder bone
Sternum
Point of croup
Third phalanx (coffin)
Cannon bone
Humerus or arm bone
Skull
Pelvis
Spinous process
Radius and ulna (forearm)
Tarsus or hock
Ischium
Tarsal or hock bones
Shoulder joint
Sesamoid
Femur or thigh
Second phalanx (short pastern)
Tibia and fibula or leg bones
Mandible
Carpal or knee bones
Large metacarpal or cannon
Point of hip
Hip joint
Stifle joint
Large metatarsal or cannon
First phalanx (long pastern)
Elbow

a. ____________________

b. ____________________

c. ____________________

d. ____________________

e. ____________________

f. ____________________

g. ____________________

h. ____________________

i. ____________________

j. ____________________

k. ____________________

l. ____________________

m. ____________________

n. ____________________

o. ____________________

p. ____________________

q. ____________________

r. ____________________

s. ____________________

t. ____________________

u. ____________________

v. ____________________

w. ____________________

x. ____________________

y. ____________________

z. ____________________

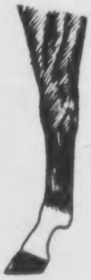
aa. ____________________

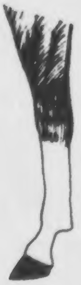
bb. ____________________

cc. ____________________

dd. ____________________

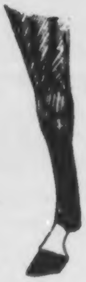
5. Identify the common leg markings below and on the following page by writing the correct names in the blanks provided.



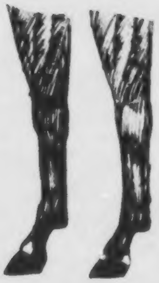


a. ____________________

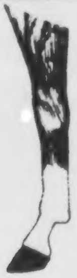
b. ____________________



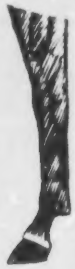
c. ____________________



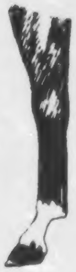
d. ____________________



e. ____________________

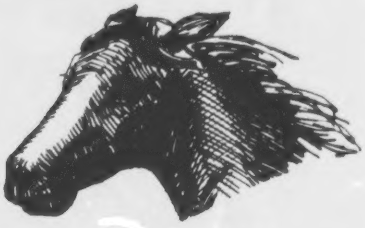


f. ____________________

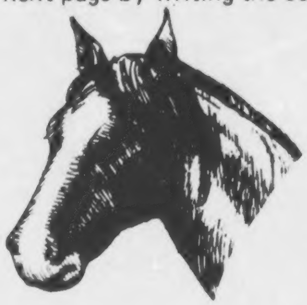


g. ____________________

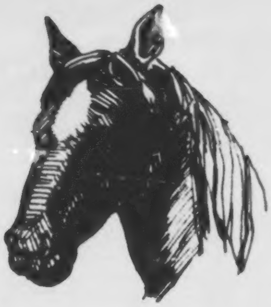
6. Identify the common head markings below and on the next page by writing the correct names in the blanks provided.

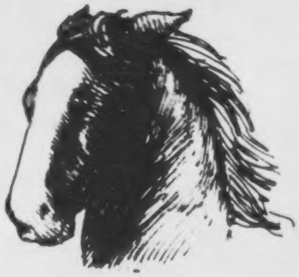


a. ____________________

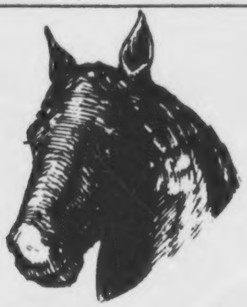


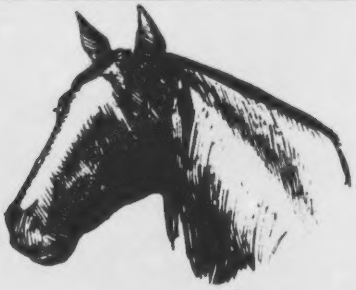
b. ____________________



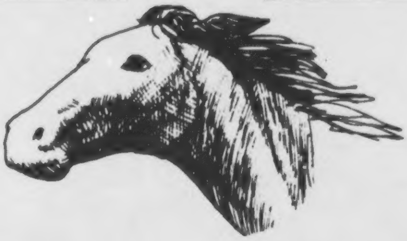


c. ______________________________ d. ______________________________





e. ______________________________ f. ______________________________



g. ______________________________

7. Match the natural gaits of a horse to the correct descriptions by writing the correct numbers in the blanks provided.

_____a. Even, two-beat gait; diagonal front and rear feet work together

_____b. Slow, four-beat gait in which all four feet are working independently

_____c. Natural, three-beat gait; opposite front from lead and rear with lead working together and other two legs working independently

_____d. Even, two-beat gait; lateral front and rear feet work together

1. Pace
2. Walk
3. Trot
4. Canter

8. Describe normal measurements pertinent to a horse.

a. Height ______________________________

____

b. Weight ______________________________

____

c. Girth ______________________________

____

d. Bone ______________________________

____

9. Complete the following chart on numbers of teeth of mature and young horses. Write the correct information in the blanks provided.

TYPES OF TEETH	NUMBER OF TEETH OF MATURE HORSE		NUMBER OF TEETH OF YOUNG HORSE	
	Male	Female	Male	Female
Molars or Grinders	a._____	b._____	c._____	12
Incisors or Front Teeth	12	12	12	d._____
Canines (appear between 4-5 years of age)	4	--	--	--
TOTAL	e._____	f._____	24	24

10. Describe change in horse's teeth with advancing age.

____

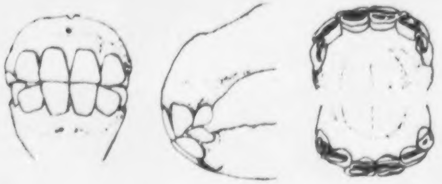
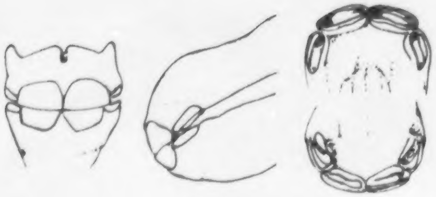
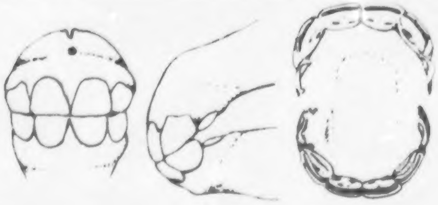
____

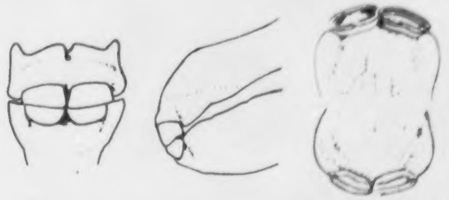
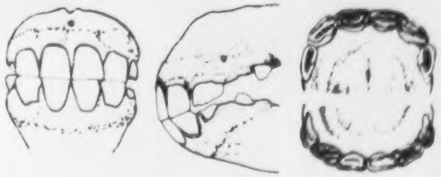
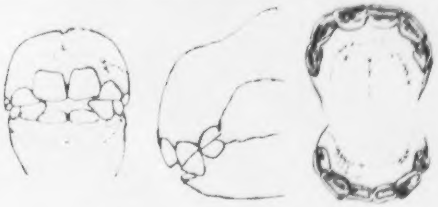
____

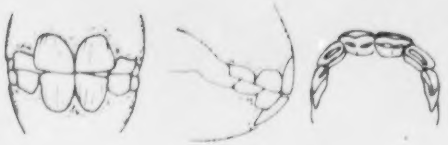
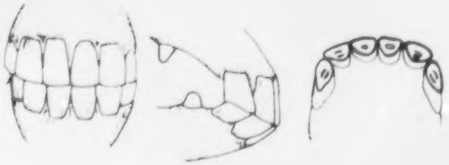
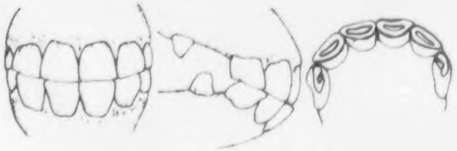
____

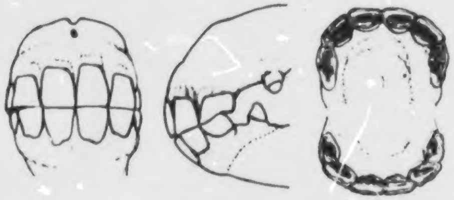
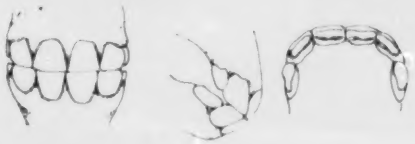
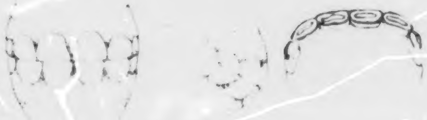
____

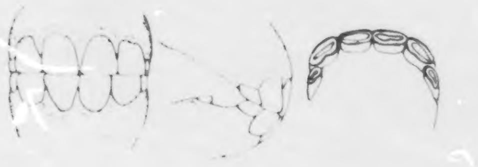
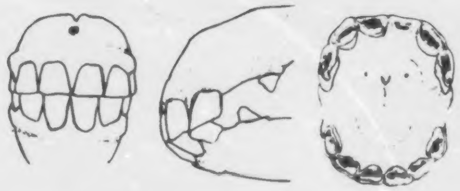
11. Complete the following chart on determining age of horse by appearance and description of teeth. Write the correct information in the blanks provided.

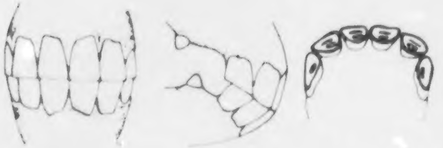
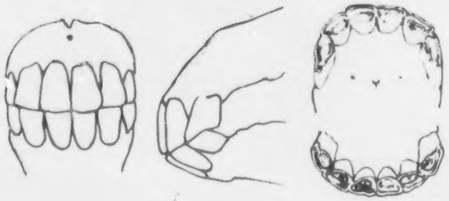
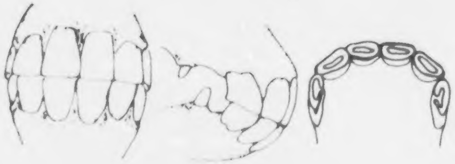
Drawing of Teeth	Age of Animal	Description of Teeth
	a. ______________	Lateral or intermediate permanent incisors appear
	1 to 3 months	b. ______________________
	c. ______________	Third or corner temporary incisors appear

Drawing of Teeth	Age of Animal	Description of Teeth
	d.____________________	Central temporary incisors appear
	e.____________________	Third or corner permanent incisors appear; canine teeth appear in males at 4-5 years of age
	2 1/2 years of age	f.____________________________________

Drawing of Teeth	Age of Animal	Description of Teeth
	g.____________________	Has central permanent up and in wear
	h.____________________	Cups worn out of all upper and lower incisors, and dental "star" approaches center of cups; "smooth mouthed"
	5 years of age	i.________________________________

Drawing of Teeth	Age of Animal	Description of Teeth
	j.____________________	Cups also worn out of lower central incisors
	1 year of age	k.______________________________
	2 years of age	Shows full mouth of incisors; all are now in wear

Drawing of Teeth	Age of Animal	Description of Teeth
	4 years of age	Central and lateral permanent in wear
	I.________________	Cups worn out of lateral incisors, and dental "star" appears on lower incisors

Drawing of Teeth	Age of Animal	Description of Teeth
	m.______________	Cups also worn out of all lower and central upper incisors, and dental "star" appears on upper laterals as well as centrals; low central incisors practically triangular
	n.______________	Cups also worn out of upper laterals, and dental "star" is present on all incisors both upper and lower; upper and lower incisors have begun to slope forward
	6 years of age	All show a central infundibular depression or "cup"

12. List means of marketing the horse.

    a. ______________________________

    b. ______________________________

    c. ______________________________

    d. ______________________________

13. Demonstrate the ability to:

    a. Determine age of horse by examining teeth.

    b. Determine height, weight, girth, and bone.

    (NOTE: If the above activities have not been accomplished prior to the test, ask your instructor when they should be completed.)

SELECTING AND MARKETING THE HORSE
UNIT I

ANSWERS TO TEST

1. a. Sound--Horse free from injury or lameness; horse that is guaranteed free from blemishes and unsoundness

   b. Conformation--Body shape or form

   c. Pedigree--Record of the ancestry of an animal

   d. Gait--Particular way of going, either natural or acquired, which is characterized by a distinctive rhythmic movement of the feet and legs

2. Any six of the following:

   a. Use

   b. Soundness

   c. Conformation

   d. Size

   e. Breed

   f. Pedigree

   g. Sex

   h. Color

   i. Cost

3. a. Ear

   b. Mane

   c. Withers

   d. Back

   e. Loin

   f. Croup

   g. Tail

   h. Buttock

   i. Flank

j. Quarter
k. Stifle
l. Gaskin
m. Hock
n. Cannon
o. Ankle
p. Fetlock
q. Hoof or foot
r. Pastern
s. Abdomen
t. Thigh
u. Point of hip
v. Coupling
w. Barrel
x. Girth
y. Fetlock
z. Coronet
aa. Pastern
bb. Ankle
cc. Cannon
dd. Knee
ee. Forearm
ff. Elbow
gg. Arm
hh. Chest
ii. Point of shoulder
jj. Throatlatch
kk. Jaw
ll. Cheek

mm. Under lip

nn. Lower lip

oo. Upper lip

pp. Muzzle

qq. Nostril

rr. Bridge of nose

ss. Face

tt. Forehead

uu. Poll

vv. Crest

ww. Neck

xx. Shoulder

4. a. Skull

b. Mandible

c. Scapula or shoulder bone

d. Shoulder joint

e. Sternum

f. Humerus or arm bone

g. Radius and ulna (forearm)

h. Carpal or knee bones

i. Small metacarpal or splint bone

j. Large metacarpal or cannon

k. Sesamoid

l. Third phalanx (coffin)

m. Second phalanx (short pastern)

n. First phalanx (long pastern)

o. Cannon bone

p. Tarsal or hock bones

q. Tibia and fibula or leg bones

r. Pelvis

s. Ribs

t. Elbow

u. Spinous process

v. Point of hip

w. Point of croup

x. Hip joint

y. Ischium

z. Femur or thigh

aa. Stifle joint

bb. Tarsus or hock

cc. Large metatarsal or cannon

dd. Sesamoid

5. a. Ankle

b. Stocking

c. Pastern

d. White marks or spots

e. Sock or half-stocking

f. Coronet

g. Distal spots

6. a. Strip

b. Star, stripe, and snip

c. Star

d. Blaze

e. Snip

f. Star and stripe

g. Bald

7. a. 3

b. 2

c. 4

d. 1

8. a. Height--Determined by measuring vertical distance from withers to ground; usually expressed in "hands," each "hand" being four inches

b. Weight--Best determined by placing animal on scales; approximation may be made with weight tape; expressed in pounds

c. Girth--Circumference of chest behind withers and in front of back; expressed in inches

d. Bone--Usually expressed in inches by measuring circumference of cannon bone

9. a. 24 d. 12

b. 24 e. 40

c. 12 f. 36

10. Description should include:
    a. Slant out toward front
    b. Change in wearing surface
    c. Change in shape of cups
    d. Change in shape of dental star and tooth
11. a. 3 1/2 years of age
    b. Lateral or intermediate temporary incisors appear
    c. 8 to 9 months
    d. Birth to 1 month
    e. 4 1/2 years of age
    f. Central permanent incisors replace temporary
    g. 3 years of age
    h. 11 to 12 years of age
    i. Full mouth of permanent incisors in wear
    j. 7 years of age
    k. All temporary incisors have appeared with central incisors showing wear
    l. 8 years of age
    m. 9 years of age
    n. 10 years of age
12. a. Individual
    b. Consign to agent
    c. Public sale
    d. Advertise in magazine and/or newspaper
13. Performance skills evaluated to satisfaction of instructor

JUDGING
UNIT II

UNIT OBJECTIVE

After completion of this unit, the student should be able to judge a halter class and a performance class and prepare and present oral reasons. This knowledge will be evidenced by completion of the assignment sheets, job sheets, and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with judging to the correct definitions.
2. Describe factors to consider in judging halter and performance classes.
3. Complete a chart on desirable and undesirable characteristics of horse's anatomy.
4. Explain the system of examination and characteristics for judging.
5. Select from a list common unsoundnesses of feet and legs.
6. Match structural defects which commonly cause unsoundness to the correct descriptions.
7. Complete a chart on evaluation of unsoundnesses and defects.
8. Write favorable comparisons and criticisms for judging a halter class.
9. Write favorable comparisons and criticisms for judging a performance class.
10. List important factors to consider in taking notes for oral reasons.
11. List important items to consider when organizing reasons for presentation.
12. Discuss techniques for delivering reasons.
13. Prepare oral reasons.
14. Present oral reasons.
15. Demonstrate the ability to:
    a. Judge a halter class.
    b. Judge a performance class.

JUDGING
UNIT II

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information and assignment sheets.

   C. Discuss information and assignment sheets.

   D. Review "Fundamentals of Foot Care" unit concerning feet and legs.

   E. Secure animals for judging or plan trip to nearby farm or ranch to complete Job Sheets #1 and #2; use Assignment Sheets #1 and #2 with these job sheets.

   F. Demonstrate and discuss procedures outlined in job sheets.

   G. Give test in parts due to amount of direct recall required.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Transparency masters

      1. TM 1--Sample Notes for Oral Reasons

      2. TM 2--Organizing Reasons for Presentation

   D. Assignment sheets

      1. Assignment Sheet #1--Prepare Oral Reasons

      2. Assignment Sheet #2--Present Oral Reasons

   E. Job sheets

      1. Job Sheet #1--Judge a Halter Class

      2. Job Sheet #2--Judge a Performance Class

   F. Test

   G. Answers to test

III. Unit references:

A. *Light Horse Selection*. Columbus, Ohio: The Ohio State University Cooperative Extension Service, 1971.

B. *Horse Judging Manual*. Lexington, Kentucky: University of Kentucky, Cooperative Extension, 1974.

JUDGING
UNIT II

INFORMATION SHEET

I. Terms and definitions

   A. Balance--Overall appearance of the horse; all parts of the body are in correct proportion to each other

   B. Coarse--Used to express a lack of quality and refinement

   C Conformation--Structure and arrangement of parts as they form the body of the horse

   D. Type--Arrangement of the body parts into distinct recognizable patterns

   (NOTE: All horses have the same basic conformation, but each breed has distinct conformation types that make it different from other breeds.)

   E. Quality--Fineness of features, fine hair, and an absence of coarseness

   F. Soundness--Freedom from any abnormal deviation in structure or function which interferes with the usefulness of the horse

   G. Stylish--Having a pleasing, graceful, alert general appearance

   H. Unsoundness--Includes the more serious abnormalities that affect the serviceability of the horse

   I. Blemish--Includes those abnormalities that do not affect the serviceability of the horse

II. Factors to consider in judging halter and performance classes

   A. Halter

      1. Type--Terms denoting the sum total of characteristics which make an animal useful for its intended purpose

      2. Conformation--Involves correctness of structure in feet and legs, muscling, and the overall physical structure

      3. Action--Key to usefulness and soundness

      4. Quality and style--Impression determined by refinement, alertness, carriage, and sex character

10

INFORMATION SHEET

B. Performance

1. Manners--Refers to behavior and attitude
2. Performance--Includes correctness of gaits, leads, and required maneuvers
3. Suitability--Refers to presence and impression in the ring

III. Desirable and undesirable characteristics of horse's anatomy and structure

Anatomy and Structure	Desirable Characteristics	Undesirable Characteristics
Head	Size of head in proportion to size of body; good breed type and attractiveness	Long, narrow, Roman-nosed
Ears	Medium sized; erect, clean cut; set well apart	Flop-eared; motionless; set too high or too low
Eyes	Big, full, prominent with a dark, rich hazel color	Pig-eyed; glass-eyed
Nostrils	Large with skin clear; mucous membranes rosey-colored at rest and deep red with clear liquid discharge following exercise	Small
Mouth	Teeth meet evenly	Parrot-mouthed; monkey-mouthed
Neck	Rather long and trim with trim throatlatch	Short, bulky, and thick; ewe-necked
Withers	Prominent	Too rounded; mutton-withered
Back	Straight with proportionate length	Sagging or sway-backed; convex or roached back
Loin	Short, heavy muscling	Weak muscling
Croup	Uniform width with hips and turned to allow rear legs to be in proper position	Too steep; too level
Chest	Proportionate width to house heart and lungs	Too narrow; too wide
Shoulder	Long and sloping	Short, straight, and steep

INFORMATION SHEET

Anatomy and Structure	Desirable Characteristics	Undesirable Characteristics
Forearm	Long	Short
Knee	Wide, thick, deep, and clean cut	Calf-kneed, buck-kneed, bench-kneed
Hock	Lean, wide, and deep in its proportion; well open as viewed from side and properly directed as viewed from rear	Cow-hocked; open in hocks; rotating hocks; sickle-hocked
Cannon	Flat with substance; short in comparison to forearm	Round and lacking substance; too long in comparison to forearm
Fetlock	Clean-cut	Thick, coarse, round
Pastern	Springy; length in correlation with well-sloped shoulder	Too straight; coon-footed
Feet	Large enough to support body; front usually larger than hind	Too small; too large

IV. System of examination and characteristics for judging

(NOTE: Your primary goal should be to find the animal in the class that conforms most closely to the ideal type. Look for general appearance, type, balance, and muscling. Observe from a distance of 25-30 feet for first impression.)

A. Viewing from side

1. Stature and scale
2. Length
3. Depth of heart girths and flanks
4. Carriage and shape of head and neck
5. Shortness of back and coupling
6. Levelness of top line
7. Length and straightness of underline
8. Height and shape of withers
9. Length and slope of shoulder

INFORMATION SHEET

10. Position and conformation of knees
11. Turn of croup
12. Set of tail

B. Viewing from front

1. Muscling
2. Temperament and disposition
3. Features of the head
4. Width and depth of chest
5. Position and conformation of forelegs and feet

C. Viewing from rear

1. Width and roundness of hips
2. Fullness of thigh and quarters
3. Position and conformation of hind legs

D. Viewing horse while traveling

1. Length
2. Directness
3. Promptness
4. Height
5. Spring
6. Regularity
7. Straightness of movement of feet and legs

E. Viewing at close inspection

1. Unsoundness
2. Muscling
3. Quality of feet and legs
4. Withers

INFORMATION SHEET

V. Common unsoundnesses of feet and legs

   A. Bowed tendon

   B. Bone spavin

   C. Laminitis

   D. Ringbone

   E. Sidebone

   F. Splint

   G. Thrush

   H. Capped hocks, knees, elbows

   I. Corns

   J. Navicular disease

   K. Stifled

   L. Osselets

VI. Structural defects which commonly cause unsoundness

   A. Splay-footed--Toes turned outward

   B. Pigeon-toed--Toes turned inward

   C. Calf-kneed--When viewed from side, knees bend backward

   D. Buck-kneed--When viewed from side, knees are bent forward

   E. Knock-kneed or bow-kneed--Legs stand in at knees or too close at knees

   F. Sickle-hocked--When viewed from side, hind legs extend too far under animal with too much bend at hocks

   G. Bench-kneed--When viewed from front, cannons fail to meet center of knees

   H. Cow-hocked--When viewed from rear, toes turn out and hocks turn inward

INFORMATION SHEET

VII. Evaluation of unsoundnesses and defects

Unsoundness or Defect	Disqualification	Discrimination	Serious Discrimination
Blindness	X		
Bone spavin	X		
Capped hock		X	
Filled hocks		X	
Bog spavin			X
Cocked ankles			X
Hip down		X	
Monkey mouth			X
Parrot mouth			X
Stifled	X		
Bowed tendon			X
Cracked feet		X	
Broken wind	X		
Curb		X	
Stringhalt	X		

INFORMATION SHEET

VIII. Terminology jor judging halter classes (Assignment Sheet #1)

FAVORABLE COMPARISONS	CRITICISMS
General	
Typier (more breed type)	Off type
Smoother	Rough
Higher quality	Coarse; low quality
More nicely balanced	Poorly balanced
More stylish	Plain
Heavier muscled	Light-muscled
Longer, cleaner muscling	Short, bunchy muscling
Head and Neck	
Shorter, broader head	Long, narrow head
More alert eye	Sleepy-eyed
Neater muzzle	Coarse muzzle
More massive jaw	Small jaw
Shorter ear	Long, mule ear
Cleaner at the throatlatch	Coarse throated
Smoother-necked	Coarse, thick neck
Neck blends smoothly at shoulder	Rough at shoulder
More breed character	Plain head
Longer neck	Short neck
More desirable set to neck	Low headed, high headed
Shoulder	
More prominent withers	Low flat withers
Cleaner withers	Muttony (fat) withers
More angle in the shoulder	Steep shoulder
Deeper shoulder (longer)	Shallow shoulder (shorter)
More sloping shoulder	Steep shoulder
Smoother shoulder	Rough shoulder

INFORMATION SHEET

FAVORABLE COMPARISONS	CRITICISMS
Chest and Forelegs	
Deeper chest	Shallow chest
Broader chest	Narrow chest
Wider set forelegs	Narrow set forelegs
Heavier forearm	Light forearm
Longer tapering forearm muscle	Short, bunchy forearm muscle
Smoother knee joint	Coarse jointed
Deeper jointed	Shallow jointed
Shorter cannon	Long cannon
More medium length pastern	Long, weak; short, stiff pastern
More correct set of pastern	Weak pastern; steep pastern
Barrel and Topline	
Deeper in the heart	Shallow in the heart
More spring in forerib	Flat-ribbed; flat-sided
Shorter back	Long back
Shorter, stronger coupling	Long, weak coupling
Closer-coupled	Slack-coupled
Stronger back	Weak back
Smoother hip	Rough hips; boxy hips
Longer underline	Short underline
Quarter and Rear Legs	
Heavy-quartered	Light-quartered
Longer croup	Short croup
Nicer turned croup	Steep croup; flat croup

INFORMATION SHEET

FAVORABLE COMPARISONS	CRITICISMS
From the side:	
Wider stifle	Narrow stifle
Wider gaskin	Light gaskin
Deeper hock	Shallow hock
From the rear:	
Thicker, fuller quarter	Narrow quarter
Thicker through stifle	Light in the stifle
More gaskin inside and out	Thin gaskin
Smoother hocked	Coarse, rough hocks
Bone, Feet and Legs, Stance	
Heavier bone; stronger bone	Light bone
Flatter, cleaner cannons	Round cannons
Shorter cannons	Long cannons
More correct pasterns	Weak pasterns, steep pasterns
Cleaner joints	Fleshy joints; puffy joints
Roomier, well-rounded feet	Mule-footed
Deeper, more open heel	Shallow heel; narrow heel
Smoother, harder hooves	Thin, cracked hooves
Straighter legs	Crooked legs
Front Legs	
Straighter on front legs, stands more correctly on the forelegs	Knock-kneed; bow-legged; buck-kneed; calf-kneed
Straighter on feet	Pigeon-toed; splay-footed

INFORMATION SHEET

FAVORABLE COMPARISONS	CRITICISMS
Hind Legs	
More correct on hind legs	Cow-hocked; bow-legged; bandy-legged
Straighter feet	Toes out; toes in
More correct set at the hock	Sickle-hocked (too much angle); post-legged (not enough angle)
Action	
Truer action	Faulty action
Moves straighter in front	Paddles (wings out); moves close (rope walks)
Moves straighter behind	Wings out; wings in
More correct hock action	Rolls the hocks (lateral movement); jerks the hocks
Freer moving	Stumbles; interferes; forges (hitting front foot with back)
Snappier stride	Sluggish
Longer stride	Short stride
More forceful stride	Halting stride
More correct flexion (hocks, knees, ankles)	Stiff (hock, knee, ankle); too much flexion (lifts feet too high)

IX. Terminology for judging pleasure class (Assignment Sheet #2)

FAVORABLE COMPARISONS	CRITICISMS
Action	
Freer and more coordinated	Lacked coordination
Traveled more easily on a reasonably loose rein	Short, choppy action

INFORMATION SHEET

FAVORABLE COMPARISONS	CRITICISMS
Gaits	
Responded to aids more rapidly and smoothly	Failed to respond to aids
Smoother, prompter transitions	Rougher transitions
Stopped squarely and readily upon command	Failed to stop when asked
Collected and under control	Charging; running away
Leads	
Correct lead	Incorrect lead
Took correct lead more easily	Took wrong lead
Obedience	
More responsive	Showed poor response
Lighter on the bit	Tugged at the bit
Required less visible cueing	Required excessive cueing
Manners	
Had more manners	Sour disposition
Stood more quietly	Fretted and pranced
Correct head set	Threw head excessively
	Tail wringing
	Opening of mouth
	Fighting the bit
Backing	
Backed straight and more promptly	Backed unevenly
Kept mouth closed and did not raise head when backing	Wrung tail and shook
Backed readily	Refused to back
Suitability	
Looked like a pleasure horse	Had poor form under saddle
Gave rider a more enjoyable ride	Gave rough ride

INFORMATION SHEET

X. Notes for oral reasons (Transparencies 1 and 2, Assignment Sheet #1)

   A. Make notes identifying each horse in class

   B. Develop chart with placing, reasons, grants, and faults

XI. Organizing reasons for presentation (Transparency 2, Assignment Sheet #2)

   A. Make reasons easily understood by official judge

   B. Compare horses rather than describing them

   C. Arrange each class into three pairs: top, middle, and bottom

   D. Stress strong points of the top horse in each pair and then admit or grant any way the bottom horse in each pair may excel; repeat same order for second and third pair

   E. Start your reasons by saying, "I placed this class of (age), (breed), (sex)" and then give placings

   Example: "I placed this class of three-year-old quarter horse geldings 3, 1, 2, 4."

   F. Describe horses in logical sequence

   Examples: Front to rear of animal or top to bottom of animal

   G. Conclude by saying, "For these reasons, I placed this class of (age), (breed), (sex)" and then your placings

   Example: "For these reasons, I placed this class of three-year-old quarter horse geldings 3, 1, 2, 4.

XII. Delivering reasons (Assignment Sheet #2)

   A. Two minutes are allowed for giving out oral reasons

   B. Notes will not be used while giving reasons, but placing card may

   C. Voice should be clear and reasons concise, using correct terminology

   D. Stance should be square and on both feet

   E. Eye contact should be directed toward person listening to reasons

   F. Delivery of reasons should be in a convincing, truthful, and easily understood manner

   G. Emphasis should be placed on big differences between horses, stressing the comparisons in which the top animal in each pair is superior

   H. Upon conclusion, thank individual for listening to reasons and leave

Sample Notes for Oral Reasons

NAME Jane Smith

CLASS JUDGED Quarter Horse Mares

Observations

Horse No.	General Appearances	Action
1	Grey, typey head, long coupling. Coarse angles.	Sluggish.
2	Bay with star. Good shoulder. Straight legs. Deep in heart girth.	Short stride.
3	Bay, no markings. Balanced. Deep in heart girth. Refined and feminine.	Free moving. Correct hock action.
4	Chestnut. Week back and coarse.	Short stride. Paddles in front.

Organizing Reasons for Presentation

REASONS FOR PLACING	ADMIT OR GRANT	FAULTS
3/1 Balance, deeper in heart girth, stylish front, sharper withers, leveler croup, cleaner in hocks, truer stride	1/3 None	1/ Lacks style and quality, long coupling, coarse ankles
1/2 Shorter, broader head, longer neck, deeper in heart, more muscle in stifle, correct on front legs, rugged bone	2/1 Shorter back	2/ Buck-kneed, lacks ruggedness
2/4 Broader head, sharper withers, stronger back and loin, level croup, flatter bone, cleaner ankles	4/2 Moves closer at hocks	4/ Flat withers, coarse bone, weak back

JUDGING
UNIT II

ASSIGNMENT SHEET #1--PREPARE ORAL REASONS

Using the form below and the one on the next page, make notes identifying each horse in the classes you judged in Job Sheet #1 and Job Sheet #2. Write your placings, reasons, grants, and faults in the appropriate boxes.

NAME:

CLASS JUDGED:

	OBSERVATIONS	
Horse No.	**General Appearance**	**Action**

ASSIGNMENT SHEET #1

NAME:

CLASS JUDGED:

	OBSERVATIONS	
Horse No.	General Appearance	Action

JUDGING
UNIT II

ASSIGNMENT SHEET #2--PRESENT ORAL REASONS

Using the classes you judged in Job Sheet #1 and Job Sheet #2 and the notes from Assignment Sheet #1, organize your reasons for presentation using the charts on the following pages. An example is given below. After you have organized your reasons, present them to your instructor. An example presentation has been written for you on the next page.

Example for halter class:

2 - 3 - 1 - 4

REASONS FOR PLACING	ADMIT OR GRANT	FAULTS
2/3 Balance, more substance, shorter coupled, shorter backed, turn of croup	2/3 Cleaner cut about the head and neck	3/ Stands close behind
3/1 More slope of shoulder and definition of withers, stands more correctly from front and side, goes with longer and springier strides	1/3 None	1/ Weak in loin, lacks quality
1/4 More sytlish in front, sharper at withers, stands more correctly in front, easier and freer stride	4/1 Flatter bone	4/ Lacks type and quality, wings

ASSIGNMENT SHEET #2

(NOTE: The following set of reasons for a halter class has been written out so you can see exactly how you should present the reasons orally. You should memorize these reasons as closely as possible. However, your presentation should be made from the card you fill out.)

SAMPLE SET OF ORAL REASONS FOR A HALTER CLASS

I placed this set of three-year-old quarter horse geldings 2 - 3 - 1 - 4.

Referring to my top pair 2 and 3, I placed 2 over 3 because he is more balanced in conformation and possesses more substance. He is shorter coupled, shorter backed, and more nicely turned over the croup. I will grant that 3 is cleaner cut about the head and throat. I fault 3 for standing close behind.

Regarding my middle pair 3 and 1, I placed 3 over 1 because he has more slope of shoulder, definition at the withers, and is stronger in the stifle. He also stands more correctly on his feet and legs as viewed from the front and side and goes with a longer and springier stride. I fault 1 for being weak in the loin and lacking the quality of the 3 gelding.

In the case of my bottom pair, I placed 1 over 4 because he is more stylish about the front and sharper at the withers. He stands more correctly in the front and has an easier and freer stride. I grant that 4 has flatter bone but fault him for lacking type and quality and winging slightly at the trot.

For these reasons I placed this class of three-year-old quarter horse geldings 2 - 3 - 1 - 4. Thank you.

(NOTE: The following is a sample set of oral reasons for a pleasure class. The same procedure should be used when presenting oral reasons for this class.)

SAMPLE SET OF ORAL REASONS FOR PLEASURE CLASS

I placed this western pleasure class 1 - 4 - 3 - 2.

Referring to my top pair 1 and 4, I placed 1 over 4 because 4 was more collected and coordinated in execution of gaits. One traveled smoother, took leads correctly with ease and promptness, displayed a calm disposition, and stopped squarely upon command. I faulted 4 for being a little slow in taking the left lead at the canter.

In my middle pair, I placed 4 over 3 because 4 showed more balance and style and traveled more easily on a loose rein. Four also was lighter on the bit and required less visible cueing. I admit that 3 had a straighter back and responded more promptly than 4, but I fault 3 for a short, choppy action at the trot and canter.

Moving to my bottom pair of 3 over 2, I placed 3 over 2 for being more responsive and standing more quietly while in line. I admit 2 stopped more squarely and readily upon command, but I fault 2 for incorrect lead to the left and rougher transitions.

For these reasons I placed this western pleasure class 1 - 4 - 3 - 2. Thank you.

ASSIGNMENT SHEET #2

REASONS FOR PLACING	ADMIT OR GRANT	FAULTS

ASSIGNMENT SHEET #2

REASONS FOR PLACING	ADMIT OR GRANT	FAULTS

JUDGING
UNIT II

JOB SHEET #1--JUDGE A HALTER CLASS

(NOTE: This job sheet should be used with Assignment Sheets #1 and #2.)

I. Equipment and materials

  A. Four horses of same sex and age

  B. Four leaders

  C. Four cards numbered 1 - 4

  (NOTE: Display a card on each leader to identify horse.)

II. Procedure

  (NOTE: You will be allowed 15 minutes for nonreason classes and 17 minutes for reason classes.)

  A. Observe overall picture of the four animals from a distance of 25-30 feet

  B. View each horse from the side

  C. View each horse from the front

  D. View each horse from the rear

  E. View each animal at the walk and trot

  F. View each animal at close inspection

JUDGING
UNIT II

JOB SHEET #2--JUDGE A PERFORMANCE CLASS

(NOTE: This job sheet should be used with Assignment Sheets #1 and #2.)

I. Equipment and materials

   A. Four horses performing in same class

      Examples: Western pleasure, hunt-seat pleasure, reining, cutting

   B. Four riders

   C. Four cards numbered 1 - 4

      (NOTE: Display a number on each rider.)

II. Procedure

   (NOTE: You will be allowed 15 minutes for nonreason classes and 17 minutes for reason classes.)

   A. Observe horses at walk, trot, and canter moving around arena to the left

   B. Observe horses at walk, trot, and canter, moving around arena to the right

   C. Observe horses in line

   D. Observe each horse as it backs

JUDGING
UNIT II

TEST

NAME____ SCORE_________________

1. Match terms associated with judging to the correct definitions. Place the correct numbers in the blanks provided.

_____a. Fineness of features, fine hair, and an absence of coarseness

_____b. Having a pleasing, graceful, alert general appearance

_____c. Overall appearance of the horse; all parts of the body are in correct proportion to each other

_____d. Freedom from any abnormal deviation in structure or function which interferes with the usefulness of the horse

_____e. Arrangement of the body parts into distinct recognizable patterns

_____f. Used to express a lack of quality and refinement

_____g. Includes the more serious abnormalities that affect the serviceability of the horse

_____h. Structure and arrangement of parts as they form the body of the horse

_____i. Includes those abnormalities that do not affect the serviceability of the horse

1. Balance
2. Coarse
3. Conformation
4. Type
5. Quality
6. Soundness
7. Stylish
8. Unsoundness
9. Blemish

2. Describe the following factors to consider in judging halter and performance classes.

a. Halter

1) Type--____

____

2) Conformation--____

____

3) Action-- ______________________________

____

4) Quality and style-- ______________________________

____

b. Performance

1) Manners-- ______________________________

____

2) Performance-- ______________________________

____

3) Suitability-- ______________________________

____

3. Complete the following chart on desirable and undesirable characteristics of horse's anatomy and structure.

Anatomy and Structure	**Desirable Characteristics**	**Undesirable Characteristics**
Head	a. ____________	Long, narrow, Roman-nosed
Ears	Medium sized; erect, clean cut; set well apart	b. ____________
Eyes	c. ____________	Pig-eyed; glass-eyed
Nostrils	Large with skin clear; mucous membranes rosey-colored at rest and deep red with clear liquid discharge following exercise	d. ____________
Mouth	e. ____________	Parrot-mouthed; monkey-mouthed
Neck	Rather long and trim with trim throatlatch	Short, bulky, and thick; ewe-necked
Withers	f. ____________	Too rounded; mutton-withered

Back	Straight with proportionate length	Sagging or sway-backed; convex or roached back
Loin	g.______________________	Weak muscling
Croup	Uniform width with hips and turned to allow rear legs to be in proper position	h.__________________
Chest	Proportionate width to house heart and lungs	i.__________________
Shoulder	j.______________________	Short, straight, and steep
Forearm	k.______________________	Short
Knee	l.______________________	Calf-kneed, buck-kneed, bench-kneed
Hock	Lean, wide, and deep in its proportion; well open as viewed from side and properly directed as viewed from rear	Cow-hocked; open in hocks; rotating hocks; sickle-hocked
Cannon	Flat with substance; short in comparison to forearm	m.__________________ ____________________ ____________________
Fetlock	Clean-cut	n.__________________
Pastern	o.______________________ ________________________	Too straight; coon-footed
Feet	p.______________________ ________________________	Too small; too large

4. Explain the system of examination and characteristics for judging.

5. Select from the list below common unsoundnesses of feet and legs. Mark each correct answer with an "X."

______ a. Splay-footed

______ b. Bone spavin

______ c. Ringbone

______ d. Capped hocks, knees, elbows

______ e. Sesamoid

______ f. Laminitis

______ g. Shallow hocks

______ h. Stifled

______ i. Steep croup

6. Match structural defects which commonly cause unsoundness to the correct descriptions. Place the correct numbers in the blanks provided.

______ a. Toes turned inward

______ b. When viewed from front, cannons fail to meet center of knees

______ c. When viewed from side, knees are bent forward

______ d. Toes turned outward

______ e. When viewed from side, hind legs extend too far under animal with too much bend at hocks

______ f. Legs stand in at knees or too close at knees

______ g. When viewed from side, knees bend backward

______ h. When viewed from rear, toes turn out and hocks turn inward

1. Splay-footed
2. Pigeon-toed
3. Calf-kneed
4. Buck-kneed
5. Knock-kneed or bow-kneed
6. Sickle-hocked
7. Bench-kneed
8. Cow-hocked

7. Complete the following chart on evaluation of unsoundnesses and defects. Mark whether the unsoundness is a disqualification, discrimination, or serious discrimination. Mark the correct answer with an "X."

Unsoundness or Defect	Disqualification	Discrimination	Serious Discrimination
Blindness			
Bone spavin			
Capped hock			
Filled hocks			
Bog spavin			
Cocked ankles			
Hip down			
Monkey mouth			
Parrot mouth			
Stifled			
Bowed tendon			
Cracked feet			
Broken wind			
Curb			
Stringhalt			

8. Write two favorable comparisons and the corresponding criticisms for judging a halter class for each of the areas listed below.

a. General

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

b. Head and Neck

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

c. Shoulder

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

d. Chest and Forelegs

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

e. Barrel and Topline

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

f. Quarter and Rear Legs

Favorable Comparisons	Criticisms
1) ____________________	1) ____________________
____________________	____________________
2) ____________________	2) ____________________
____________________	____________________

g. Bone, Feet and Legs, Stance

Favorable Comparisons	Criticisms
1) ____________________	1) ____________________
____________________	____________________
2) ____________________	2) ____________________
____________________	____________________

h. Front Legs

Favorable Comparisons	Criticisms
1) ____________________	1) ____________________
____________________	____________________
2) ____________________	2) ____________________
____________________	____________________

i. Hind Legs

Favorable Comparisons	Criticisms
1) ____________________	1) ____________________
____________________	____________________
2) ____________________	2) ____________________
____________________	____________________

j. Action

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

9. Write two favorable comparisons and the corresponding criticisms for judging a pleasure class for each of the areas listed below.

a. Action

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

b. Gaits

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

c. Leads

Favorable Comparisons	Criticisms
1) ______________________	1) ______________________
______________________	______________________
2) ______________________	2) ______________________
______________________	______________________

d. Obedience

Favorable Comparisons	Criticisms
1) ________________	1) ________________
________________	________________
2) ________________	2) ________________
________________	________________

e. Manners

Favorable Comparisons	Criticisms
1) ________________	1) ________________
________________	________________
2) ________________	2) ________________
________________	________________

f. Backing

Favorable Comparisons	Criticisms
1) ________________	1) ________________
________________	________________
2) ________________	2) ________________
________________	________________

g. Suitability

Favorable Comparisons	Criticisms
1) ________________	1) ________________
________________	________________
2) ________________	2) ________________
________________	________________

10. List important factors to consider in taking notes for oral reasons.

a. ____

b. ____

11. List important items to consider when organizing reasons for presentation.

a.

b.

c.

d.

e.

f.

g.

12. Discuss techniques for delivering reasons.

13. Prepare oral reasons.

14. Present oral reasons.

15. Demonstrate the ability to:

    a. Judge a halter class.

    b. Judge a performance class.

    (NOTE: If activities 13-15 have not been completed before the test, ask your instructor when they should be finished.)

JUDGING
UNIT II

ANSWERS TO TEST

1. a. 5
   b. 7
   c. 1
   d. 6
   e. 4
   f. 2
   g. 8
   h. 3
   i. 9

2. Description should include:
   a. Halter
      1) Type--Terms denoting the sum total of characteristics which make an animal useful for its intended purpose
      2) Conformation--Involves correctness of structure in feet and legs, muscling, and the overall physical structure
      3) Action--Key to usefulness and soundness
      4) Quality and style--Impression determined by refinement, alertness, carriage, and sex character
   b. Performance
      1) Manners--Refers to behavior and attitude
      2) Performance--Includes correctness of gaits, leads, and required maneuvers
      3) Suitability--Refers to presence and impression in the ring

3. a. Size of head in proportion to size of body; good breed type and attractiveness
   b. Flop-eared; motionless; set too high or too low
   c. Big, full, prominent with a dark, rich hazel color
   d. Small
   e. Teeth meet evenly
   f. Prominent
   g. Short, heavy muscling
   h. Too steep; too level

- i. Too narrow; too wide
- j. Long and sloping
- k. Long
- l. Wide, thick, deep and clean cut
- m. Round and lacking substance; too long in comparison to forearm
- n. Thick, coarse, round
- o. Springy; length in correlation with well-sloped shoulder
- p. Large enough to support body; front usually larger than hind

4. Explanation should include:
   - a. Viewing from side
     - 1) Stature and scale
     - 2) Length
     - 3) Depth of heart girths and flanks
     - 4) Carriage and shape of head and neck
     - 5) Shortness of back and coupling
     - 6) Levelness of top line
     - 7) Length and straightness of underline
     - 8) Height and shape of withers
     - 9) Length and slope of shoulder
     - 10) Position and conformation of knees
     - 11) Turn of croup
     - 12) Set of tail
   - b. Viewing from front
     - 1) Muscling
     - 2) Temperament and disposition
     - 3) Features of the head
     - 4) Width and depth of chest
     - 5) Position and conformation of forelegs and feet

c. Viewing from rear
   1) Width and roundness of hips
   2) Fullness of thigh and quarters
   3) Position and conformation of hind legs

d. Viewing horse while traveling
   1) Length
   2) Directness
   3) Promptness
   4) Height
   5) Spring
   6) Regularity
   7) Straightness of movement of feet and legs

e. Viewing at close inspection
   1) Unsoundness
   2) Muscling
   3) Quality of feet and legs
   4) Withers

5. b, c, d, f, h

6. a. 2
   b. 7
   c. 4
   d. 1
   e. 6
   f. 5
   g. 3
   h. 8

7.

Unsoundness or Defect	Disqualification	Discrimination	Serious Discrimination
Blindness	X		
Bone spavin	X		
Capped hock		X	
Filled hocks		X	
Bog spavin			X
Cocked ankles			X
Hip down		X	
Monkey mouth			X
Parrot mouth			X
Stifled	X		
Bowed tendon			X
Cracked feet		X	
Broken wind	X		
Curb		X	
Stringhalt	X		

8. Any two of the following under each area:

FAVORABLE COMPARISONS	CRITICISMS
General	
Typier (more breed type)	Off type
Smoother	Rough
Higher quality	Coarse; low quality
More nicely balanced	Poorly balanced
More stylish	Plain
Heavier muscled	Light-muscled
Longer, cleaner muscling	Short, bunchy muscling
Head and Neck	
Shorter, broader head	Long, narrow head

FAVORABLE COMPARISONS	CRITICISMS
More alert eye	Sleepy-eyed
Neater muzzle	Coarse muzzle
More massive jaw	Small jaw
Shorter ear	Long, mule ear
Cleaner at the throatlatch	Coarse throated
Smoother-necked	Coarse, thick neck
Neck blends smoothly at shoulder	Rough at shoulder
More breed character	Plain head
Longer neck	Short neck
More desirable set to neck	Low headed, high headed
Shoulder	
More prominent withers	Low flat withers
Cleaner withers	Muttony (fat) withers
More angle in the shoulder	Steep shoulder
Deeper shoulder (longer)	Shallowshoulder (shorter)
More sloping shoulder	Steep shoulder
Smoother shoulder	Rough shoulder
Chest and Forelegs	
Deeper chest	Shallow chest
Broader chest	Narrow chest
Wider set forelegs	Narrow set forelegs
Heavier forearm	Light forearm
Longer tapering forearm muscle	Short, bunchy forearm muscle
Smoother knee joint	Coarse jointed
Deeper jointed	Shallow jointed
Shorter cannon	Long cannon
More medium length pastern	Long, weak; short, stiff pastern

FAVORABLE COMPARISONS	CRITICISMS
More correct set of pastern	Weak pastern; steep pastern
Barrel and Topline	
Deeper in the heart	Shallow in the heart
More spring in forerib	Flat-ribbed; flat-sided
Shorter back	Long back
Shorter, stronger coupling	Long, weak coupling
Closer-coupled	Slack-coupled
Stronger back	Weak back
Smoother hip	Rough hips; boxy hips
Longer underline	Short underline
Quarter and Rear Legs	
Heavy-quartered	Light-quartered
Longer croup	Short croup
Nicer-turned croup	Steep croup; flat croup
From the side:	
Wider stifle	Narrow stifle
Wider gaskin	Light gaskin
Deeper hock	Shallow hock
From the rear:	
Thicker, fuller quarter	Narrow quarter
Thicker through stifle	Light in the stifle
More gaskin inside and out	Thin gaskin
Smoother hocked	Coarse, rough hocks
Bone, Feet and Legs, Stance	
Heavier bone; stronger bone	Light bone
Flatter, cleaner cannons	Round cannons
Shorter cannons	Long cannons

FAVORABLE COMPARISONS	CRITICISMS
More correct pasterns	Weak pasterns, steep pasterns
Cleaner joints	Fleshy joints; puffy joints
Roomier, well-rounded feet	Mule-footed
Deeper, more open heel	Shallow heel; narrow heel
Smoother, harder hooves	Thin, cracked hooves
Straighter legs	Crooked legs
Front Legs	
Straighter on front legs, stands more correctly on the forelegs	Knock-kneed; bow-legged; buck-kneed; calf-kneed
Straighter on feet	Pigeon-toed; splay-footed
Hind Legs	
More correct on hind legs	Cow-hocked; bow-legged; bandy-legged
Straighter feet	Toes out; toes in
More correct set at the hock	Sickle-hocked (too much angle); post-legged (not enough angle)
Action	
Truer action	Faulty action
Moves straighter in front	Paddles (wings out); moves close (rope walks)
Moves straighter behind	Wings out; wings in
More correct hock action	Rolls the hocks (lateral movement); jerks the hocks
Freer moving	Stumbles; interferes; forges (hitting front foot with back)
Snappier stride	Sluggish
Longer stride	Short stride
More forceful stride	Halting stride
More correct flexion (hocks, knees, ankles)	Stiff (hock, knee, ankle); too much flexion (lifts feet too high)

9. Any two of the following under each area:

FAVORABLE COMPARISONS	CRITICISMS
Action	
Freer and more coordinated	Lacked coordination
Traveled more easily on a reasonably loose rein	Short, choppy action
Gaits	
Responded to aids more rapidly and smoothly	Failed to respond to aids
Smoother, prompter transitions	Rougher transitions
Stopped squarely and readily upon command	Failed to stop when asked
Collected and under control	Charging; running away
Leads	
Correct lead	Incorrect lead
Took correct lead more easily	Took wrong lead
Obedience	
More responsive	Showed poor response
Lighter on the bit	Tugged at the bit
Required less visible cueing	Required excessive cueing
Manners	
Had more manners	Sour disposition
Stood more quietly	Fretted and pranced
Correct head set	Threw head excessively
	Tail wringing
	Opening of mouth
	Fighting the bit
Backing	
Backed straight and more promptly	Backed unevenly
Kept mouth closed and did not raise head when backing	Wrung tail and shook

FAVORABLE COMPARISONS	CRITICISMS
Backed readily	Refused to back
Suitability	
Looked like a pleasure horse	Had poor form under saddle
Gave rider a more enjoyable ride	Gave rough ride

10. a. Make notes identifying each horse in class
    b. Develop chart with placings, reasons, grants, and faults
11. a. Make reasons easily understood by official judge
    b. Compare horses rather than describing them
    c. Arrange each class into three pairs: top, middle, and bottom
    d. Stress strong points of the top horse in each pair and then admit or grant any way the bottom horse in each pair may excel; repeat same order for second and third pair
    e. Start your reasons by saying, "I placed this class of (age), (breed), (sex)" and then give placings
    f. Describe horses in logical sequence
    g. Conclude by saying, "For these reasons, I placed this class of (age), (breed), (sex)" and then give placings
12. Discussion should include:
    a. Two minutes are allowed for giving out oral reasons
    b. Notes will not be used while giving reasons, but placing card may
    c. Voice should be clear and reasons concise, using correct terminology
    d. Stance should be square and on both feet
    e. Eye contact should be directed toward person listening to reasons
    f. Delivery of reasons should be in a convincing, truthful, and easily understood manner
    g. Emphasis should be placed on big differences between horses, stressing the comparisons in which the top animal in each pair is superior
    h. Upon conclusion, thank individual for listening to reasons and leave
13. Evaluated to satisfaction of instructor
14. Evaluated to satisfaction of instructor
15. Performance skills evaluated to satisfaction of instructor

TRANSPORTING THE HORSE
UNIT I

UNIT OBJECTIVE

After completion of this unit, the student should be able to describe means and techniques of transporting the horse and be able to prepare and load horse for transportation. This knowledge will be evidenced by completion of the job sheets and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with transporting the horse.
2. List ways to transport the horse.
3. Select from a list precautions to take before transporting the horse.
4. List items of trailer maintenance.
5. Discuss factors to consider while driving and transporting the horse.
6. Select from a list equipment needed for hauling.
7. List health requirements necessary for interstate travel.
8. Demonstrate the ability to:
    a. Wrap horse's legs.
    b. Wrap horse's tail.
    c. Load young horse.

TRANSPORTING THE HORSE
UNIT I

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information sheet.

   C. Discuss information sheet.

   D. Demonstrate and discuss procedures outlined in job sheets.

   E. Visit trailer manufacturer or place that sells trailers in order for students to see the different kinds of trailers.

   F. Secure horse for Job Sheet #1 and Job Sheet #2.

   G. Secure young horse not familiar with loading for Job Sheet #3.

   H. Secure trailer and equipment to complete job sheets.

   I. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Job sheets

      1. Job Sheet #1--Wrap Horse's Legs

      2. Job Sheet #2--Wrap Horse's Tail

      3. Job Sheet #3--Load Young Horse

   D. Test

   E. Answers to test

III. Unit references:

   A. Carlson, Tom. "Taking the Burden out of Trailer Loading." *Horseman Magazine*. May, 1975, pp. 78-82.

   B. Ball, Charles E. *Saddle Up*. New York: J. B. Lippincott Company, 1970.

TRANSPORTING THE HORSE
UNIT I

INFORMATION SHEET

I. Terms and definitions

  A. Trailer--Implement pulled by truck or car which may haul from one to six horses

  B. Van--Implement that is larger than trailer and is pulled by large truck or located on bed of truck

  C. Health certificate--Issued by veterinarian stating health conditions of animal

  D. Coggins exam--Test for equine infectious anemia; issued by veterinarian

  E. Statement of ownership--Bill of sale

II. Ways to transport the horse

  A. Trailer

  B. Van

  C. Truck

  D. Train

  E. Boat

  F. Plane

III. Precautions to take before transporting horse

  A. Provide good footing

  B. Provide proper ventilation

  C. Prepare horse by wrapping legs and tail

  D. Blanket horse if weather requires

  E. Feed lightly and give fresh, clean water to drink

  F. Possess proper health papers and statement of ownership

  G. Control flies and other insects

INFORMATION SHEET

IV. Items of trailer maintenance

- A. Check tires

  (NOTE: Tires should have 40-45 lbs of air, wide profile, four ply or heavier, and 1/16" tread or more.)

- B. Check floor boards before loading
- C. Check brake lights, turn signals, and running lights
- D. Check spare tire
- E. Make sure hitch and latches are secured
- F. Oil hitch mechanism regularly
- G. Pack wheel bearings annually or every 10,000 miles
- H. Keep trailer washed and waxed to prevent rust

V. Factors to consider while driving and transporting the horse

- A. Drive at a moderate, constant, and safe speed
- B. Avoid quick starts and stops
- C. Use light application of brakes first and then apply
- D. Avoid taking sharp curves too fast
- E. Allow horse to rest every 3-4 hours and unload and walk every 8-10 hours on long hauls
- F. Take into consideration state laws, signs, amount and speed of traffic, and weather conditions

VI. Equipment needed for hauling

- A. Trailer and vehicle
- B. Halter with lead
- C. Leg and tail wraps

  (NOTE: Shipping boots may be used instead of leg wraps.)

- D. Blanket or sheet

  (NOTE: This may or may not be necessary, depending on the weather.)

INFORMATION SHEET

VII. Health requirements necessary for interstate travel

A. Negative Coggins test

(NOTE: Time of validity varies among states and purpose for transporting.)

B. Health certificate

(NOTE: This certificate is considered current if it has been issued within the last 30 days before transporting the horse.)

TRANSPORTING THE HORSE
UNIT I

JOB SHEET #1--WRAP HORSE'S LEGS

I. Equipment and materials

   A. Horse

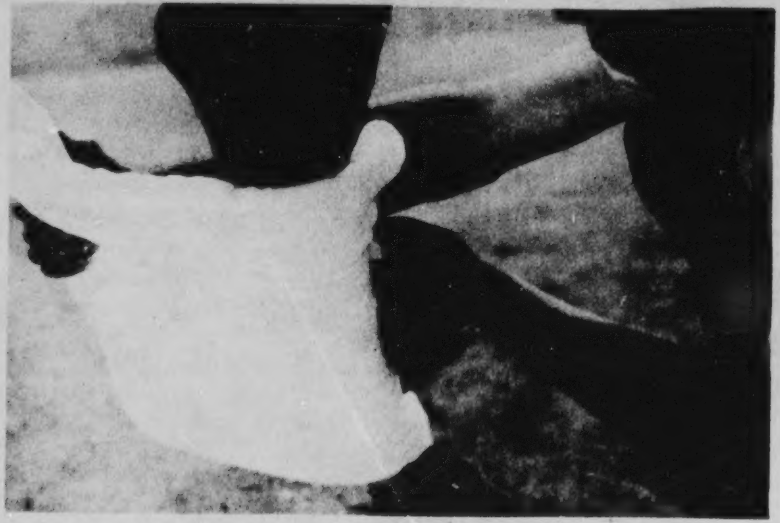
   B. Cotton or quilted padding

   C. Track or leg bandages

II. Procedure

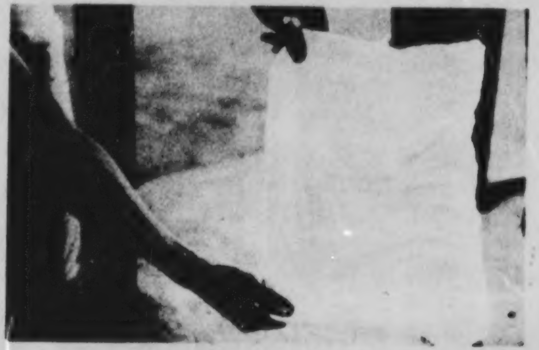
   A. Apply padding to leg (Figure 1)

FIGURE 1



   B. Smooth end of padding carefully for final wrapping (Figure 2)

FIGURE 2



JOB SHEET #1

C. Secure end of bandage with final turn of padding (Figure 3)

FIGURE 3

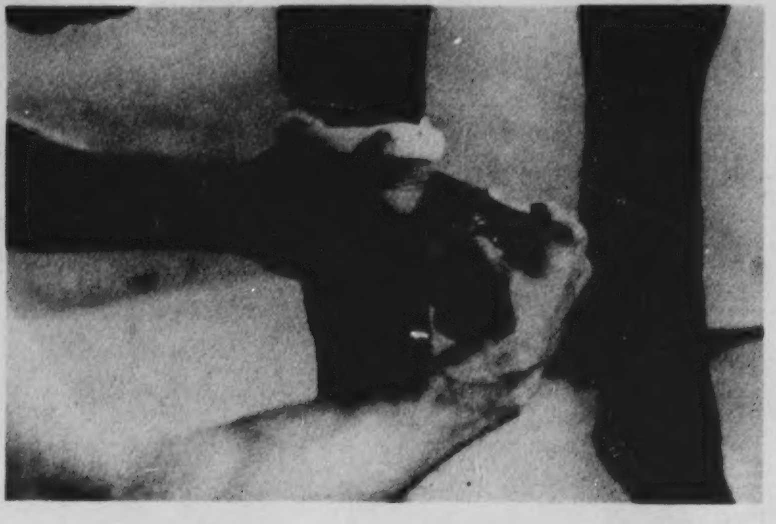
D. Continue making successive turns of final wrap, spiralling downward (Figure 4)

FIGURE 4

JOB SHEET #1

E. Wrap all the way to top and back to center, unrolling final turn for application without tension (Figure 5)

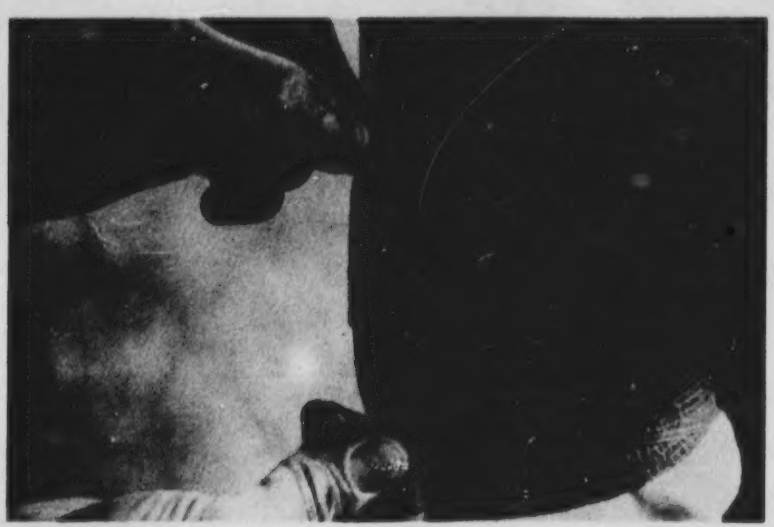
FIGURE 5



F. Press final wrap so that it adheres to itself on outside of leg (Figure 6)

(NOTE: This same principle applies if bandages tie or fasten with self-fasteners.)

FIGURE 6



TRANSPORTING THE HORSE
UNIT I

JOB SHEET #2--WRAP HORSE'S TAIL

I. Equipment and materials

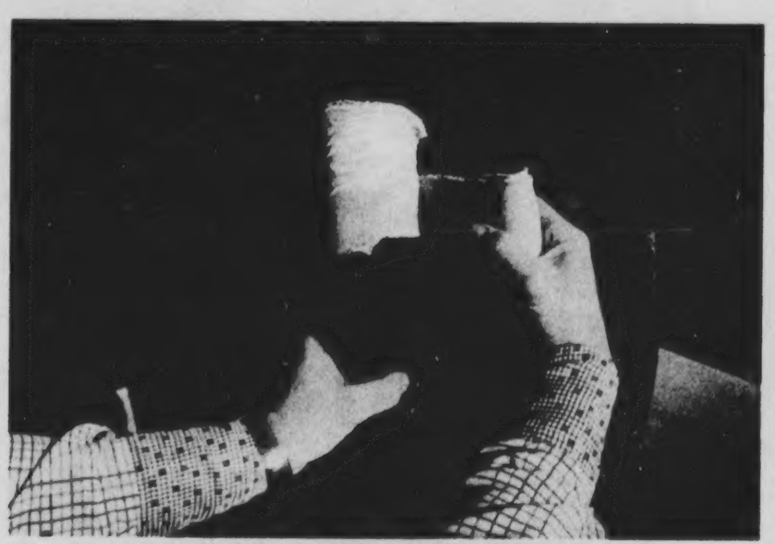
A. Horse

B. Tail or leg bandage

II. Procedure

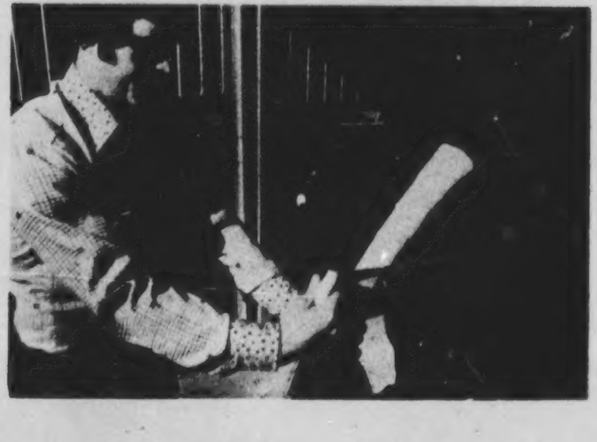
A. Start at top of tail (Figure 1)

FIGURE 1



B. Progress by spiralling downward (Figure 2)

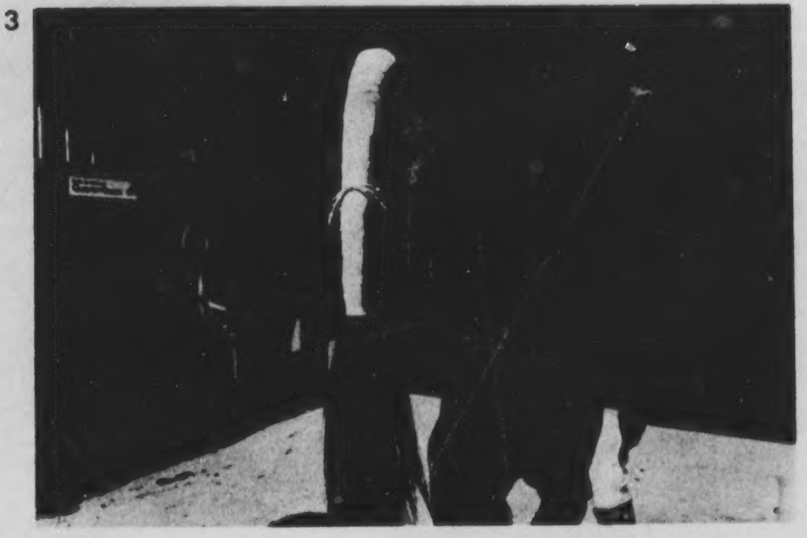
FIGURE 2



JOB SHEET #2

C. Wrap upper half of tail and back to center of wrap, unrolling final turn to fasten or tie on outside of tail (Figure 3)

FIGURE 3



TRANSPORTING THE HORSE
UNIT I

JOB SHEET #3--LOAD YOUNG HORSE

I. Equipment and materials

   A. Horse or stock trailer hooked to vehicle

   B. Young horse, halter broke but not familiar with loading

   C. Tail and leg wraps

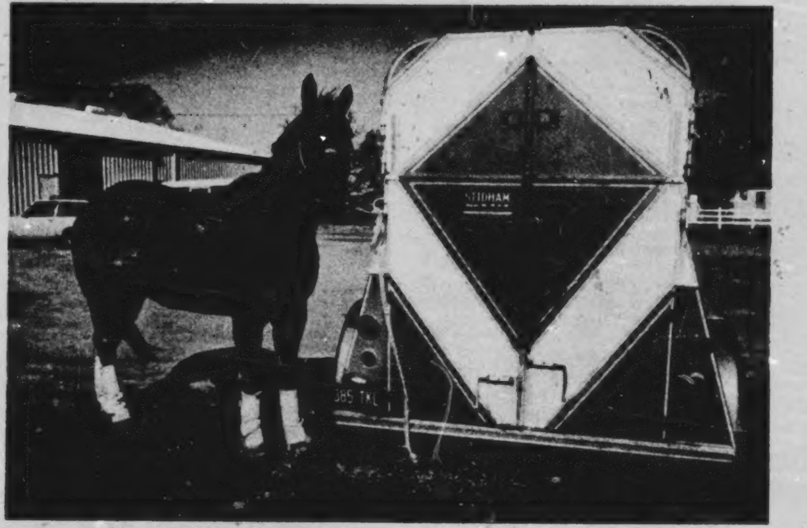
   D. Lead line, 15 feet long, and halter

II. Procedure

(CAUTION: You must be very patient to avoid danger to yourself and the horse.)

   A. Introduce horse to trailer by letting it stand tied to trailer for a period of time (Figure 1)

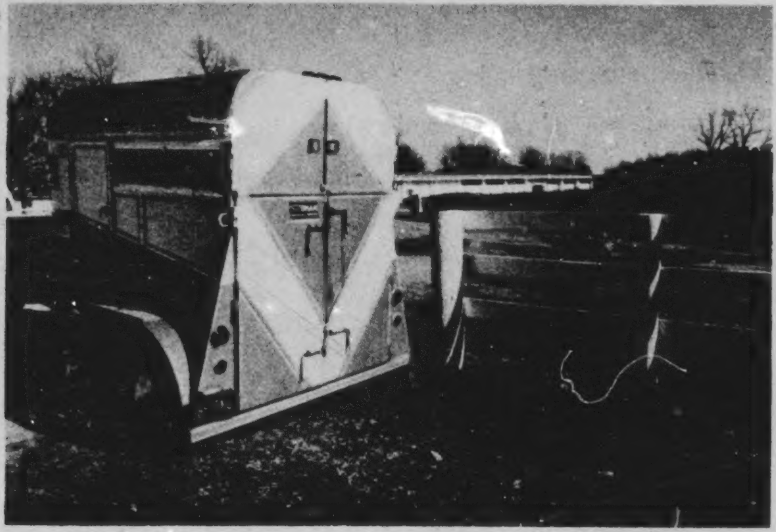
FIGURE 1



JOB SHEET #3

B. Park near board fence or barn where horse cannot move around to side (Figure 2)

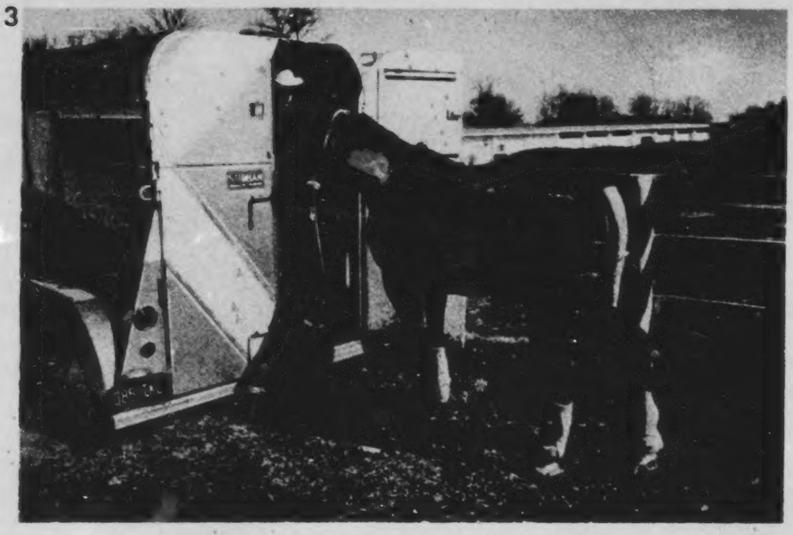
FIGURE 2



C. Open rear door and place lead line through loop in front of trailer and back to you, or have someone in front of horse holding lead line (Figure 3)

(NOTE: If someone is to be in front of horse holding lead line, open "escape" door on side of trailer.)

FIGURE 3

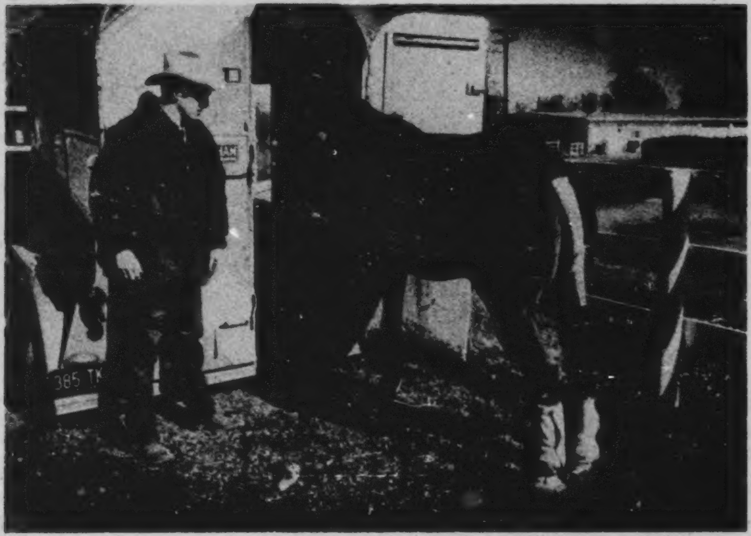


JOB SHEET #3

D. Stand behind and to side of horse, keeping its head straight with lead line, or have the person in front of horse hold lead while you stand to side of horse to keep it straight

(CAUTION: Stand in a position so horse cannot kick you. Stand on side of horse that is opposite fence or barn. See Figure 4.)

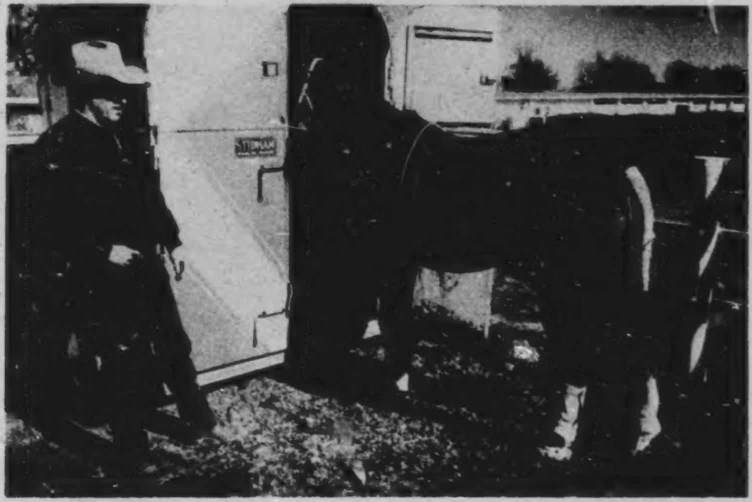
FIGURE 4



E. Apply pressure to horse from rear, only keeping lead tight enough to keep head straight

(NOTE: Pressure may be applied by tapping horse on rear. If horse is reluctant to step into trailer, place horse's front foot in trailer. See Figure 5.)

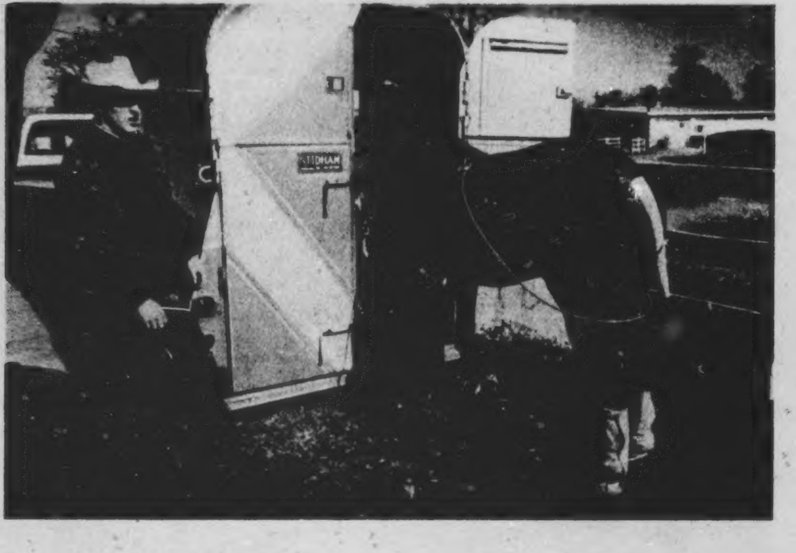
FIGURE 5



JOB SHEET #3

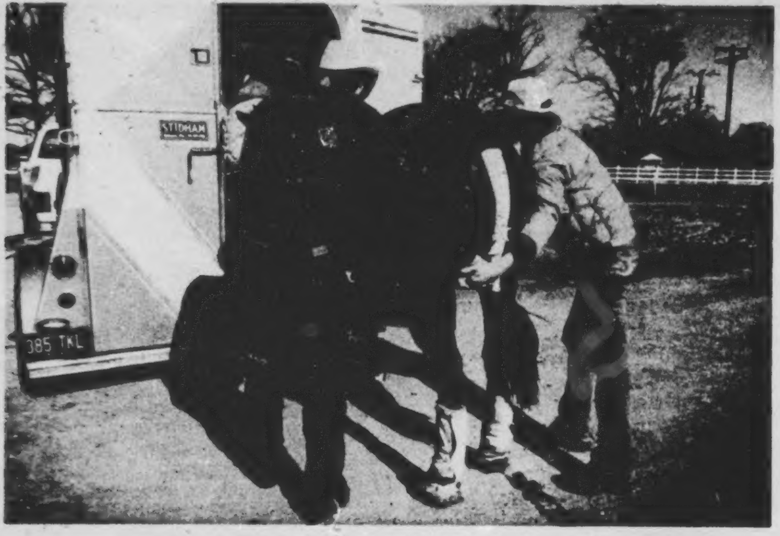
(NOTE: If horse shows resistance, pressure may be applied by placing rope behind horse. See Figure 6.)

FIGURE 6



(NOTE: Another way to apply pressure if horse shows resistance is for two people to grasp arms behind horse. See Figure 7.)

FIGURE 7



F. Close door and fasten butt chain once horse is loaded

G. Secure lead tight enough to keep a leg from getting over the lead, but not tight enough that horse could break it

JOB SHEET #3

H. Unload horse by untying head, untying butt chain, and opening door

(NOTE: Order is important. You should **always** have the lead untied before allowing horse to back out.)

I. Allow horse to back out slowly

(NOTE: Avoid any bad experiences and horse should be easier to load in the future.)

TRANSPORTING THE HORSE
UNIT I

TEST

NAME ______________________________ SCORE ______________

1. Define the terms listed below associated with transporting the horse. Write the correct definitions in the blanks next to the terms.

   a. Trailer-- ______________________________

   ____

   b. Van-- ______________________________

   ____

   c. Health certificate-- ______________________________

   ____

   d. Coggins exam-- ______________________________

   ____

   e. Statement of ownership-- ______________________________

2. List four ways to transport the horse.

   a. ______________________________

   b. ______________________________

   c. ______________________________

   d. ______________________________

3. Select from the list below precautions to take before transporting the horse. Mark each correct answer with an "X."

   ______a. Tranquilize horse before loading

   ______b. Provide good footing

   ______c. Possess proper health papers and statement of ownership

   ______d. Withhold all water and feed until reaching destination

   ______e. Prepare horse by wrapping legs and tail

   ______f. Feed lightly and give fresh, clean water to drink

4. List five items of trailer maintenance.

   a. ____________________

   b. ____________________

   c. ____________________

   d. ____________________

   e. ____________________

5. Discuss factors to consider while driving and transporting the horse.

   ____

   ____

   ____

   ____

   ____

   ____

   ____

   ____

6. Select from the list below equipment needed for hauling. Mark each correct answer with an "X."

   ______a. Trailer and vehicle

   ______b. Tranquilizers

   ______c. Whip for horse that is hard to load

   ______d. Leg and tail wraps

   ______e. Halter with lead

   ______f. Blanket or sheet

   ______g. Show halter

7. List health requirements necessary for interstate travel.

   a. ____________________

   b. ____________________

8. Demonstrate the ability to:
   - a. Wrap horse's legs.
   - b. Wrap horse's tail.
   - c. Load young horse.

   (NOTE: If the above activities are not accomplished prior to the test, ask your instructor when they should be completed.)

TRANSPORTING THE HORSE
UNIT I

ANSWERS TO TEST

1. a. Trailer--Implement pulled by truck or car which may haul from one to six horses
   b. Van--Implement that is larger than trailer and is pulled by large truck or located on bed of truck
   c. Health certificate--Issued by veterinarian stating health conditions of animal
   d. Coggins exam--Test for equine infectious anemia; issued by veterinarian
   e. Statement of ownership--Bill of sale
2. Any four of the following:
   a. Trailer
   b. Van
   c. Truck
   d. Train
   e. Boat
   f. Plane
3. b, c, e, f
4. Any five of the following:
   a. Check tires
   b. Check floor boards before loading
   c. Check brake lights, turn signals, and running lights
   d. Check spare tire
   e. Make sure hitch and latches are secured
   f. Oil hitch mechanism regularly
   g. Pack wheel bearings annually or every 10,000 miles
   h. Keep trailer washed and waxed to prevent rust

5. Discussion should include:
   a. Drive at a moderate, constant, and safe speed
   b. Avoid quick starts and stops
   c. Use light application of brakes first and then apply
   d. Avoid taking sharp curves too fast
   e. Allow horse to rest every 3-4 hours and unload and walk every 8-10 hours on long hauls
   f. Take into consideration state laws, signs, amount and speed of traffic, and weather conditions
6. a, d, e, f
7. a. Negative Coggins test
   b. Health certificate
8. Performance skills evaluated to satisfaction of instructor

PHYSICAL FACILITIES AND STABLE MANAGEMENT
UNIT I

UNIT OBJECTIVE

After completion of this unit, the student should be able to describe techniques of planning and managing the physical facilities. The student should also be able to draw plans for a horse facility. This knowledge will be evidenced by completion of the assignment sheet and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with physical facilities and stable management.
2. Select from a list items to consider when planning facilities.
3. Identify barn styles as determined by the shape of the roof.
4. Describe recommended environmental conditions for mature horses.
5. Select from a list basic considerations when planning horse barns.
6. Complete chart on recommended stall sizes.
7. Select from a list characteristics of stall construction.
8. Describe factors to consider in the location of a barn.
9. Select from a list conditions which determine storage space requirements for feed and bedding.
10. Select from a list types of bedding.
11. List types of fences used for horses.
12. List advantages of good fences.
13. Draw plans for a horse facility.

PHYSICAL FACILITIES AND STABLE MANAGEMENT
UNIT I

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

  A. Provide student with objective sheet.

  B. Provide student with information and assignment sheets.

  C. Contact Midwest Plan Service for more extensive information on housing and equipment for horses. Write to Midwest Plan Service, Agricultural Engineering, Iowa State University, Ames, Iowa 50010, or call (515) 294-4337.

  D. Make transparencies.

  E. Discuss unit and specific objectives.

  F. Discuss information and assignment sheets.

  G. Plan field trip to local farm or ranch to tour facilities.

  H. Give test.

II. Instructional materials:

  A. Objective sheet

  B. Information sheet

  C. Transparency masters

    1. TM 1--Space Requirements for Horses in Buildings

    2. TM 2--Recommended Widths and Heights for Passages

    3. TM 3--Storage Space Requirements for Feed and Bedding

    4. TM 4--Storage Space Requirements for Feed and Bedding (Continued)

    5. TM 5--Bedding Material: Approximate Water-Absorbing Capacity

  D. Assignment Sheet #1--Draw Plans for a Horse Facility

  E. Test

  F. Answers to test

III. Unit references:

  A. Midwest Plan Service. *Horse Handbook: Housing and Equipment.* Ames, Iowa: Iowa State University, 1971.

B. Ensminger, M. E. *Horses and Horsemanship.* 5th ed. Danville, Illinois: Interstate Printers and Publishers, 1977.

C. Midwest Plan Service. *Housing and Equipment Handbook.* Ames, Iowa: Iowa State University, 1968.

PHYSICAL FACILITIES AND STABLE MANAGEMENT
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Topography--Study or description of a surface, including the differences in height and the position of natural and constructed features

B. Tan bark--Bark rich in tannin; bruised or cut into small pieces and used in tanning

II. Items to consider when planning facilities

A. Building codes and regulations

B. Site selection

C. Style of building(s)

D. Size

(NOTE: This includes allocation of space for stalls and storage for feed, bedding, tack, and equipment.)

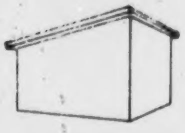
E. Manure storage and disposal

F. Pasture and paddock space

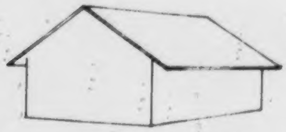
G. Available fire protection

H. Available utilities

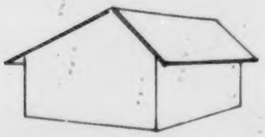
III. Barn styles as determined by shape of roof



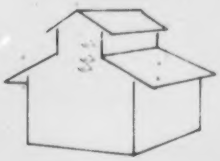
Shed



Gable

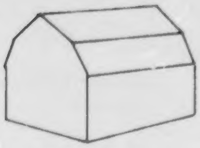


Offset Gable

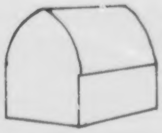


Monitor

INFORMATION SHEET



Gambrel



Gothic

IV. Recommended environmental conditions for mature horses

A. Temperature--Comfort zone is 45°-75°F (7°-24°C) with an optimum of 55°F (13°C)

(NOTE: The comfort zone for newborn foals is 75°-80°F [24-27°C].)

B. Humidity--50-75%

C. Ventilation rates--60 cu ft/min (1.7 cu mm/min) in the winter and 160 cu ft/min (4.5 cu mm/min) in the summer for a 1000 lb horse

D. Drinking water--40°-45°F (4°-7°C) in the winter and 60°-75°F (16°-24°C) in the summer

V. Basic considerations when planning horse barns

A. Protection from extreme temperature and bad weather

B. Economical cost in regard to quality

C. Adequate stall space

D. Adequate laboratory facilities

(NOTE: Space should be allowed for a treatment area and for storage of medical supplies.)

E. Adequate storage space

F. Safety features for fire protection and against injury

G. Means of pest control

Examples: Birds, rodents

H. Flexible

I. Attractive

INFORMATION SHEET

VI. Recommended stall sizes (Transparencies 1 and 2)

(NOTE: Daily exercise outside of stall is also essential.)

TYPE OF HORSE	STALL SIZE
Riding horses	12' x 12'
Stallions	14' x 14'
Weanlings	10' x 10'
Yearlings	10' x 10'
Isolation	12' x 12'
Foaling	16' x 20'

VII. Characteristics of stall construction

A. Convenient and safe

Examples: Convenient for feeding, watering, and cleaning; safe from protruding objects and conditions which might cause injury

B. Walls constructed of strong and safe materials

Examples: Concrete, masonry, metal, or 2" wood

C. Partitions 7' high; lower 4' of partition solid

D. Corner supports of steel or pressure-treated wood

E. Proper light and ventilation

F. Floor of stall of firm soil

Example: Clay

G. Waterers, feed troughs, and hay mangers located so they will not be a safety hazard

INFORMATION SHEET

VIII. Factors to consider in the location of barn

A. Accessibility--Roadways should be of a quality to maintain traffic during all kinds of weather; barn should be close to corral, paddock, or pasture

B. Drainage--Barn should be higher than surrounding topography by having a 5% slope away from the barn

C. Expandability--Room should be available around the facility to expand building if desired

D. Convenient to water and electricity--Fresh water and electricity should be close to facility

IX. Conditions which determine storage space requirements for feed and bedding (Transparencies 3 and 4)

A. Amount of available pasture

B. Length of pasture season

C. Method of feeding

D. Kind of feed

E. Climate

F. Amount of feed raised versus amount purchased

G. Number of horses to feed

X. Types of bedding (Transparency 5)

A. Straw

B. Shavings

C. Sawdust

D. Sand

E. Tan bark

F. Ground cobs

G. Peat moss

(NOTE: Other types of bedding are used in localities where it is readily available.)

INFORMATION SHEET

XI. Types of fences used for horses

(NOTE: Electric wire is used sometimes to keep horses from pushing on the fences.)

A. Steel pipe used for posts and rails

B. Wooden posts and boards

C. Wooden posts and poles

D. Wooden posts and woven wire

XII. Advantages of good fences

A. Maintain boundaries

B. Reduce losses of crops and injuries to animals

C. Increase property values

D. Promote good relationships between neighbors

E. Protect animals from roadways

F. Add to the attractiveness of premises

Space Requirements for Horses in Buildings

Dimensions of Stalls including Manger Box Stall Size		
Mature Animal (Mare or Gelding)	10’ x 10’ 10’ x 12’ 12’ x 12’	small medium large
Brood Mare	12’ x 12’	or larger
Foal to 2-year old	10’ x 10’ 12’ x 12’	average large
Stallion*	14’ x 14’	or larger
Pony	9’ x 9’	average

*Work stallions daily or provide a 2-4 acre paddock for exercise.

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Recommended Widths and Heights for Passages

Alleys	
Feed	4′ x 8′
Horse, Never Mounted	9–12′ x 8′
Horse, Mounted	9–12′ x 12′
Driveways	10–12′ x 12′
Drive-Through Doors and Gates	10′ x 12′

Storage Space Requirements for Feed and Bedding

Kind of Feed or Bedding	Pounds per Cubic Foot	Cubic Feet per Ton	Pounds per Bushel of Grain
Hay-Straw:			
1. Loose			
Alfalfa	4.4-4.0	450-500	
Nonlegume	4.4-3.3	450-600	
Straw	3.0-2.0	670-1000	
2. Baled			
Alfalfa	10.0-6.0	200-330	
Nonlegume	8.0-6.0	250-330	
Straw	5.0-4.0	400-500	
3. Chopped			
Alfalfa	7.0-5.5	285-360	
Nonlegume	6.7-5.0	300-400	
Straw	8.0-5.7	250-350	

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Storage Space Requirements for Feed and Bedding

(Continued)

Kind of Feed or Bedding	Pounds per Cubic Foot	Cubic Feet per Ton	Pounds per Bushel of Grain
Corn:			
15½% moisture			
Shelled	44.8		56
Ear	28.0		70
Shelled, ground	38.0		48
Ear, ground	36.0		45
30% moisture			
Shelled	54.0		67.5
Ear, ground	35.8		89.6
Barley, 15%	38.4		48.0
ground	28.0		37.0
Flax, 11%	44.8		56.0
Oats, 16%	25.6		32.0
ground	18.0		23.0
Rye, 16%	44.8		56.0
ground	38.0		48.0
Sorghum, grain 15%	44.8		56.0
Soybeans, 14%	48.0		60.0
Wheat, 14%	48.0		60.0
ground	43.0		50.0

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Bedding Material: Approximate Water Absorbing Capacity

lbs of water/lb of bedding	
4.0	Tan bark
3.0	Pine chips
2.5	sawdust
2.0	shavings
1.0	needles
1.5	Hardwood chips, shavings or sawdust
2.5	Shredded stover
2.1	Ground cobs
2.8	Oats, threshed
2.5	combined
2.4	chopped
3.0	HAY, chopped mature
.25	Sand
10.0	Peat Moss
2.5	Wheat Straw

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PHYSICAL FACILITIES AND STABLE MANAGEMENT
UNIT I

ASSIGNMENT SHEET #1--DRAW PLANS FOR A HORSE FACILITY

The horse facility will house eight show horses, two stallions, twenty broodmares, six yearlings, and eight weanling offspring. Draw plans of the barn or barns and include stall areas, pastures, paddocks, manure storage, and road area. Show the areas for feed, bedding, and tack storage. Take into consideration all the topics described in this unit.

PHYSICAL FACILITIES AND STABLE MANAGEMENT
UNIT I

TEST

NAME ______________________________ SCORE ______________

1. Define the following terms associated with physical facilities and stable management. Write the correct definitions in the blanks provided.

   a. Topography--____

   ____

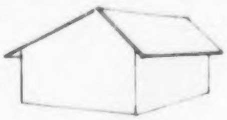
   b. Tan bark--____

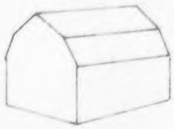
   ____

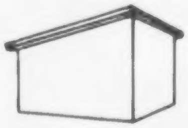
2. Select from the list below items to consider when planning facilities. Mark each correct answer with an "X."

   _____a. Manure storage and disposal
   _____b. Site selection
   _____c. Style of building(s)
   _____d. Breed of horse to be housed
   _____e. Contractor to be employed
   _____f. Available fire protection
   _____g. Building codes and regulations
   _____h. Size
   _____i. Pasture and paddock space
   _____j. Brand of building
   _____k. Color to paint
   _____l. Available utilities

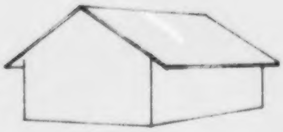
3. Identify barn styles as determined by the shape of the roof. Write the appropriate information in the blanks provided.

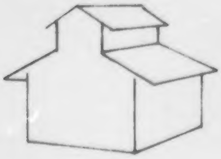


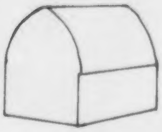




a. ______________ b. ______________ c. ______________







d. ______________ e. ______________ f. ______________

4. Describe recommended environmental conditions for mature horses.

   a. Temperature ____

   b. Humidity ____

   c. Ventilation rates ____

   d. Drinking water ____

5. Select from the list below basic considerations when planning horse barns. Mark each correct answer with an "X."

   _____a. Minimal laboratory facilities

   _____b. Means of pest control

   _____c. Specific use; not adaptable

   _____d. Protection from extreme temperature and bad weather

   _____e. Adequate stall space

   _____f. Economical cost in regard to quality

   _____g. Adequate storage space

   _____h. Red with white trim for protection

6. Complete the chart below on recommended stall sizes. Write the correct information in the blanks provided.

TYPE OF HORSE	STALL SIZE
Riding horses	
	14' x 14'
Weanlings	
	10' x 10'
	12' x 12'
Foaling	

7. Select from the list below characteristics of stall construction. Mark each correct answer with an "X."

_____a. Convenient and safe

_____b. Adjustable partitions

_____c. Proper light and ventilation

_____d. Partitions 7' high; 4' of partition solid

_____e. Stall floor made of concrete

_____f. Corner supports of steel or pressure-treated wood

_____g. Wood painted with lead paint

8. Describe factors to consider in the location of a barn.

a. Accessibility--______________________________

____

____

b. Drainage--______________________________

____

____

c. Expandability--______________________________

____

____

d. Convenient to water and electricity--______________________

____

____

9. Select from the list below conditions which determine storage space requirements for feed and bedding. Mark each correct answer with an "X."

_____a. Number of horses to feed

_____b. Age of horses

_____c. Length of pasture season

_____d. Amount of available pasture

_____e. Amount of tack

10. Select from the list below types of bedding. Mark each correct answer with an "X."

_____a. Gravel

_____b. Clay

_____c. Tan bark

_____d. Shavings

_____e. Straw

_____f. Ground cobs

_____g. Leaves

_____h. Sand

_____i. Peat moss

_____j. Sawdust

_____k. Wood chips

11. List types of fences used for horses.

a. ______________________

b. ______________________

c. ______________________

d. ______________________

12. List five advantages of good fences.

a. ______________________

b. ______________________

c. ______________________

d. ____________________

e. ____________________

13. Draw plans for a horse facility.

(NOTE: If the above activity has not been completed before the test, ask your instructor when it should be finished.)

PHYSICAL FACILITIES AND STABLE MANAGEMENT
UNIT I

ANSWERS TO TEST

1. a. Topography--Study or description of a surface, including the differences in height and the position of natural and constructed features

   b. Tan bark--Bark rich in tannin; bruised or cut into small pieces and used in tanning

2. a, b, c, f, g, h, i, l

3. a. Offset gable

   b. Gambrel

   c. Shed

   d. Gable

   e. Monitor

   f. Gothic

4. a. Temperature--Comfort zone is 45°-75° (7°-24°C) with an optimum of 55°F (13°C)

   b. Humidity--50-75%

   c. Ventilation rates--60 cu ft/min (1.7 cu mm/min) in the winter and 160 cu ft/min) (4.5 cu mm/min) in the summer for a 1000 lb horse

   d. Drinking water--40°-45°F (4°-7°C) in the winter and 60°-75°F (16°-24°C) in the summer

5. b, d, e, f, g,

6.

TYPE OF HORSE	STALL SIZE
Riding horses	12' x 12'
Stallions	14' x 14'
Weanlings	10' x 10'
Yearlings	10' x 10'
Isolation	12' x 12'
Foaling	16' x 20'

7. a, c, d, f

8. Description should include:

    a. Accessibility--Roadways should be of a quality to maintain traffic during all kinds of weather; barn should be close to corral, paddock, or pasture

    b. Drainage--Barns should be higher than surrounding topography by having a 5% slope away from the barn

    c. Expandability--Room should be available around the facility to expand building if desired

    d. Convenient to water and electricity--Fresh water and electricity should be close to facility

9. a, c, d

10. c, d, e, f, h, i, j

11. a. Steel pipe used for posts and rails

    b. Wooden posts and boards

    c. Wooden posts and poles

    d. Wooden posts and woven wire

12. Any five of the following:

    a. Maintain boundaries

    b. Reduce losses of crops and injuries to animals

    c. Increase property values

    d. Promote good relationships between neighbors

    e. Protect animals from roadways

    f. Add to the attractiveness of premises

13. Evaluated to satisfaction of instructor

SELECTION AND CARE OF TACK
UNIT II

UNIT OBJECTIVE

After completion of this unit, the student should be able to identify tack and equipment and clean tack. This knowledge will be evidenced by completion of the job sheet and unit test with a minimum of 85 percent accuracy.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with selection and care of tack.
2. Match parts of the English bridle to the correct names.
3. Identify parts of the Western bridle.
4. Identify kinds of bits.
5. Match parts of the Western saddle to the correct names.
6. Identify types of riggings on Western saddles.
7. Identify parts of the English saddle.
8. Identify types of saddle pads.
9. Identify artificial riding aids.
10. Describe ways to store saddles and bridles.
11. Demonstrate the ability to clean tack.

SELECTION AND CARE OF TACK
UNIT II

SUGGESTED ACTIVITIES

I. Suggested activities for instructor:

   A. Provide student with objective sheet.

   B. Provide student with information sheet.

   C. Secure various pieces of tack for students to examine.

   D. Demonstrate and discuss procedures outlined in the job sheet.

   E. Give test.

II. Instructional materials:

   A. Objective sheet

   B. Information sheet

   C. Job Sheet #1--Clean Tack

   D. Test

   E. Answers to test

III. Unit reference--Prince, Eleanor F., and Collier, Gaydell M. *Basic Horsemanship: English and Western.* Garden City, New York: Doubleday and Company, Inc., 1974.

SELECTION AND CARE OF TACK
UNIT II

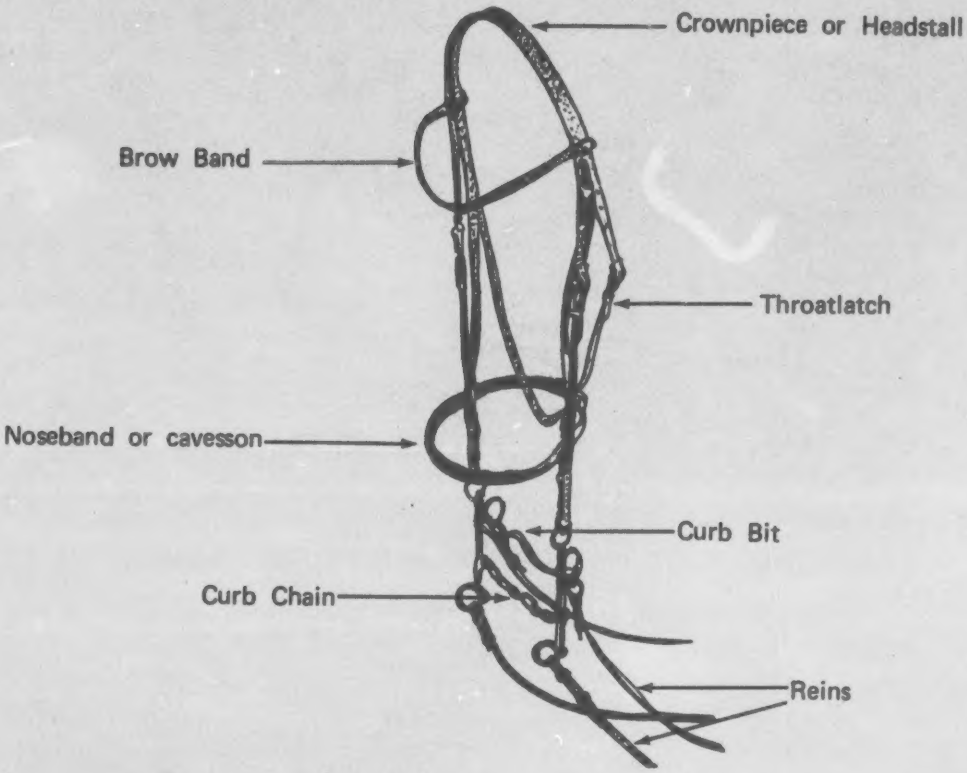
INFORMATION SHEET

I. Terms and definitions

   A. Western saddle--Large saddle with horn; used for roping, cutting, and other events

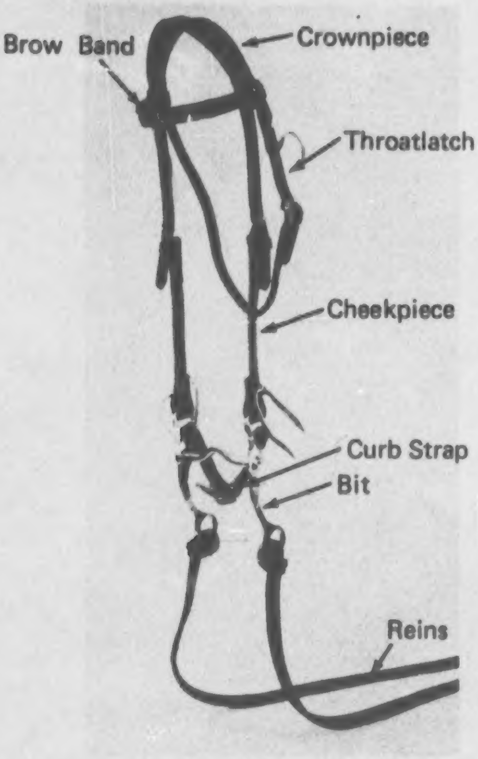
   B. English saddle--Small saddle used for jumping, pleasure, and dressage

II. Parts of the English bridle

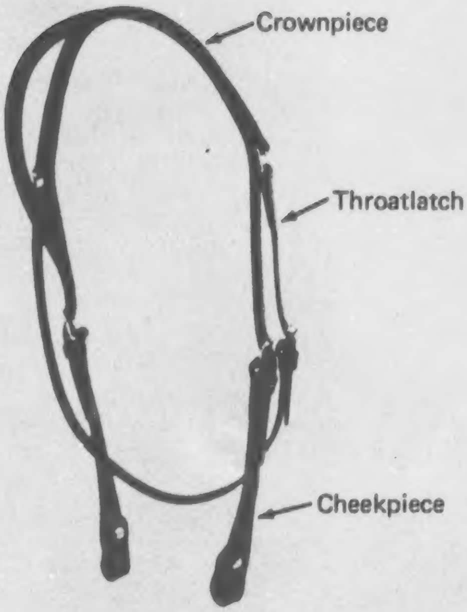

Crownpiece or Headstall
Brow Band
Throatlatch
Noseband or cavesson
Curb Bit
Curb Chain
Reins

INFORMATION SHEET

III. Parts of the Western bridle

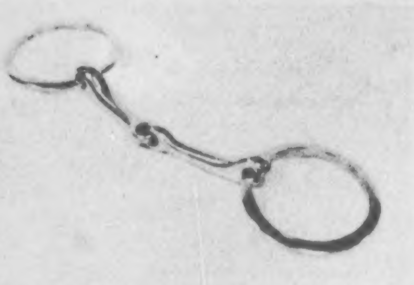

Brow Band
Crownpiece
Throatlatch
Cheekpiece
Curb Strap
Bit
Reins

Standard Western Bridle

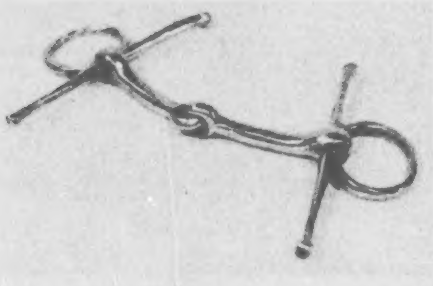

Crownpiece
Throatlatch
Cheekpiece

Western Headstall (One-Ear)

IV. Kinds of bits

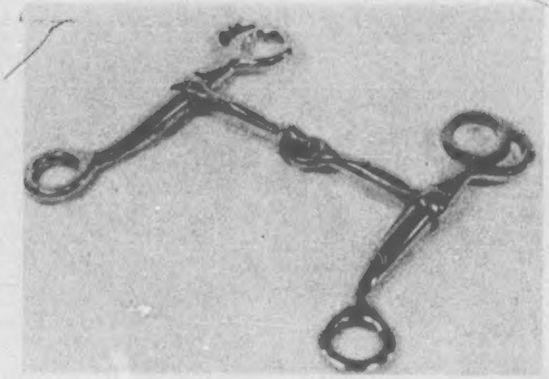


O-Ring Snaffle

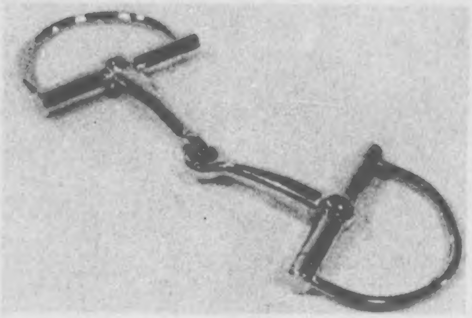


Full Cheek Snaffle

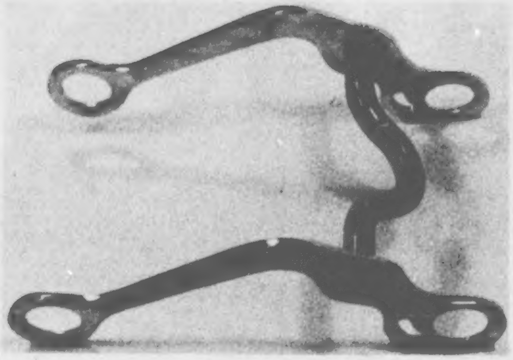
INFORMATION SHEET



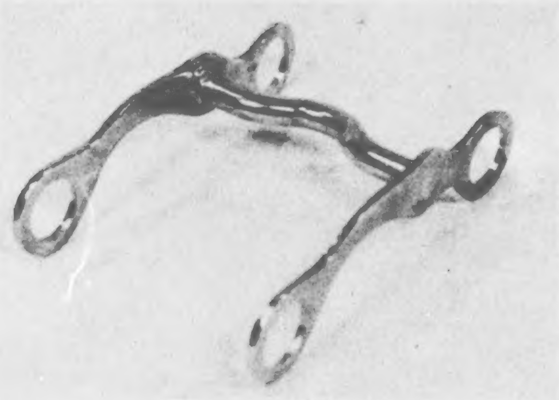
Tom Thumb



D-Ring Snaffle

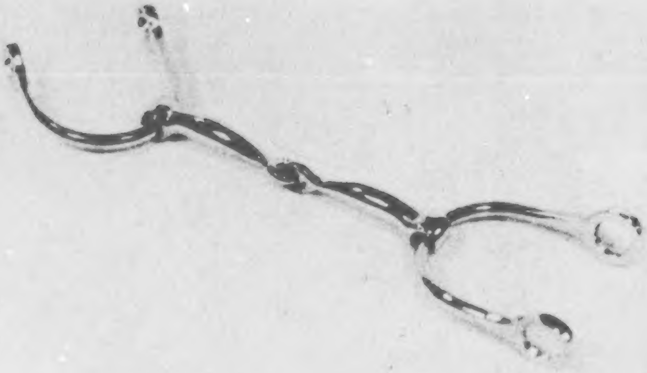


Grazing

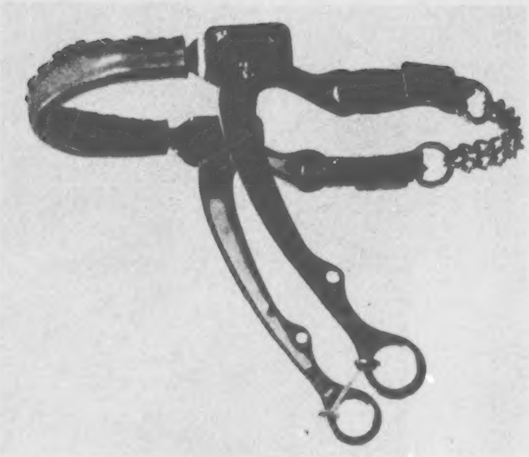


Curb

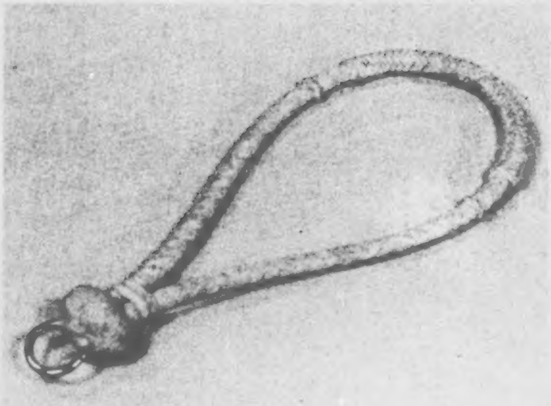
INFORMATION SHEET



Racing



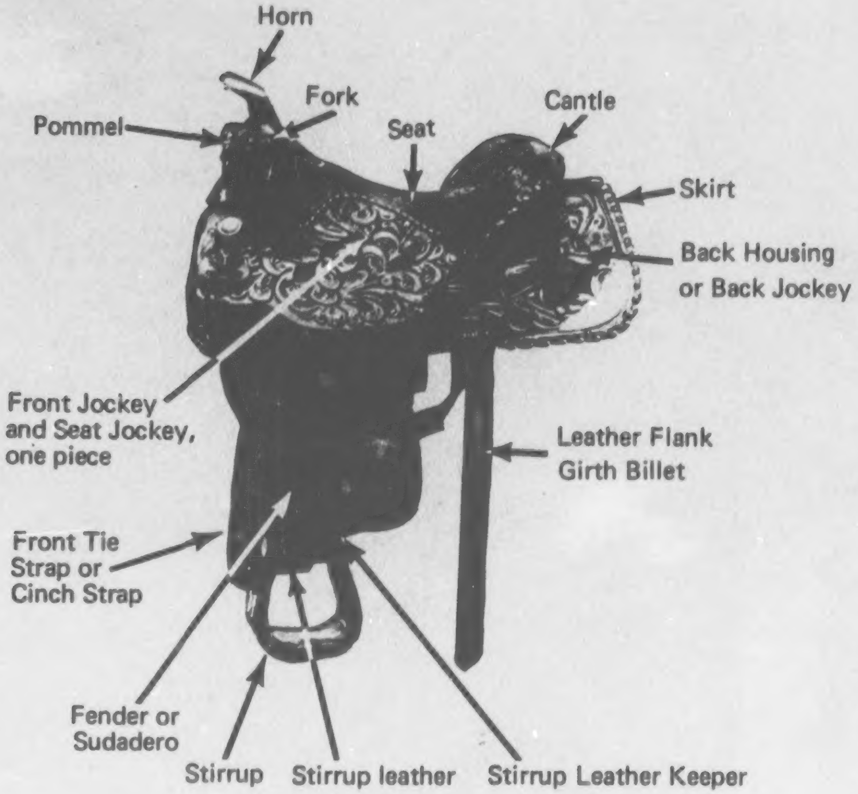
Hackamore



Bosal

INFORMATION SHEET

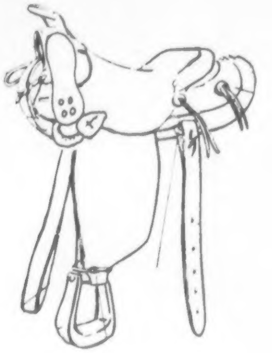
V. Parts of a Western saddle


Horn
Fork
Pommel
Seat
Cantle
Skirt
Back Housing or Back Jockey
Front Jockey and Seat Jockey, one piece
Leather Flank Girth Billet
Front Tie Strap or Cinch Strap
Fender or Sudadero
Stirrup
Stirrup leather
Stirrup Leather Keeper

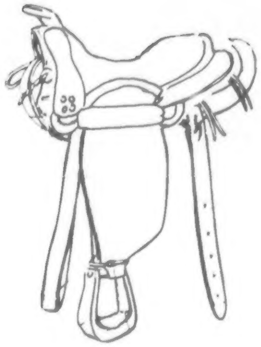
INFORMATION SHEET

VI. Rigging on Western saddles

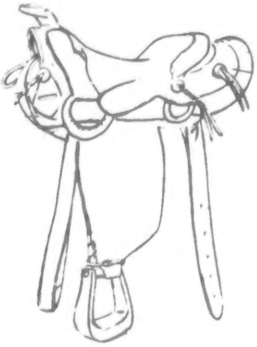
A. Three-quarter rig



B. Full rig

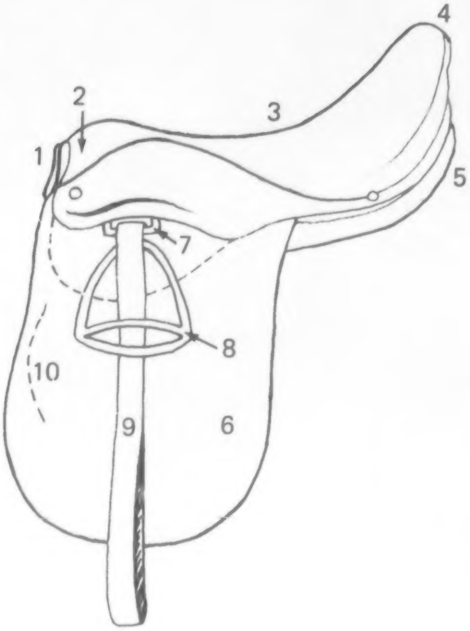


C. Three-quarter double rig



INFORMATION SHEET

VII. Parts of English saddle



1. Pommel
2. Skirt
3. Seat
4. Cantle
5. Panel
6. Flap
7. Stirrup Bar
8. Tread or Stirrup Iron
9. Stirrup Leather
10. Knee Pad or Knee Roll

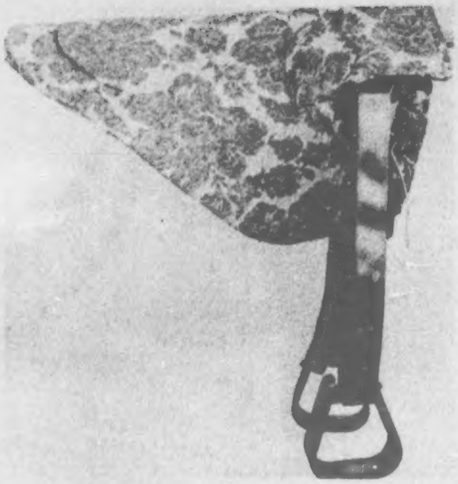
INFORMATION SHEET

VIII. Types of saddle pads

A. Western pad

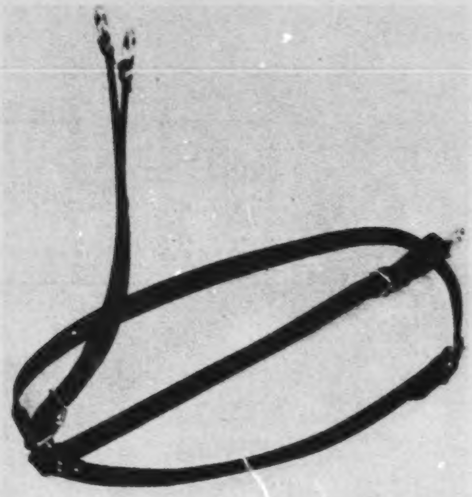
B. English pad

C. Bareback pad

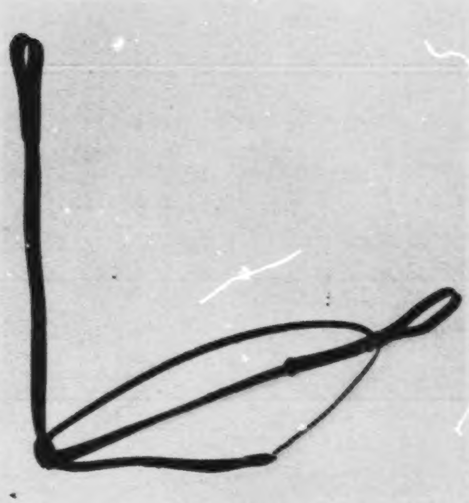


INFORMATION SHEET

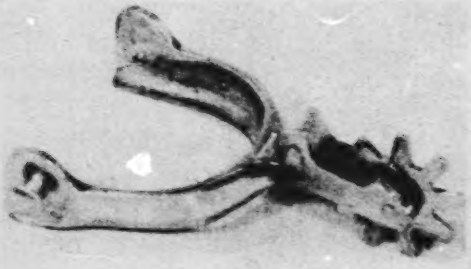
IX. Artificial riding aids



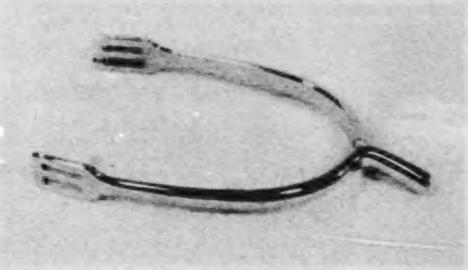
Running Martingale



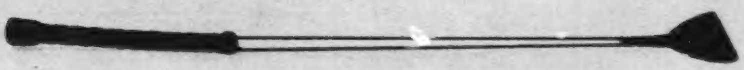
Standing Martingale



Western Spur



English Spur



Riding Crop

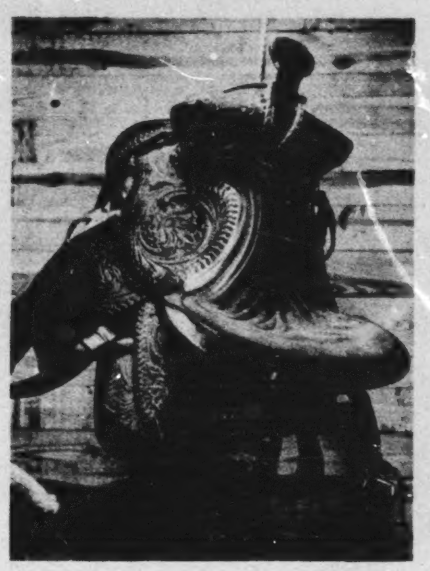
INFORMATION SHEET

X. Storage of tack

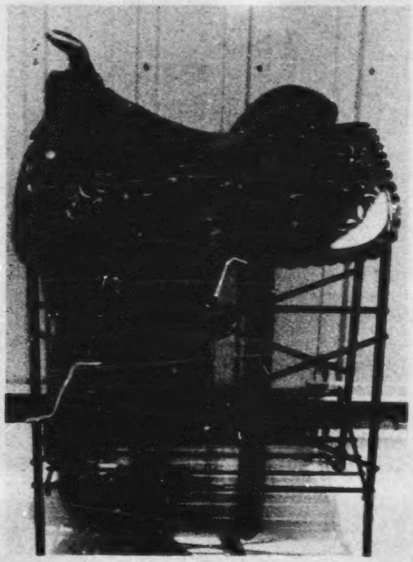
A. Western saddles

1. Hang with a rope

(NOTE: To hang a saddle by a rope hanger, run the rope through from the back of the swells and loop it over the horn from the front.)



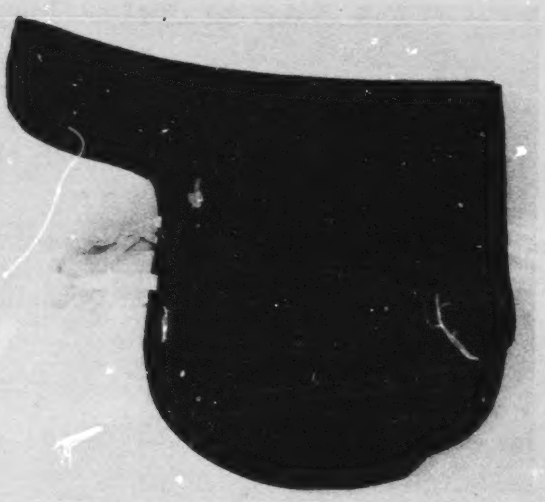
2. Place on saddle rack



INFORMATION SHEET

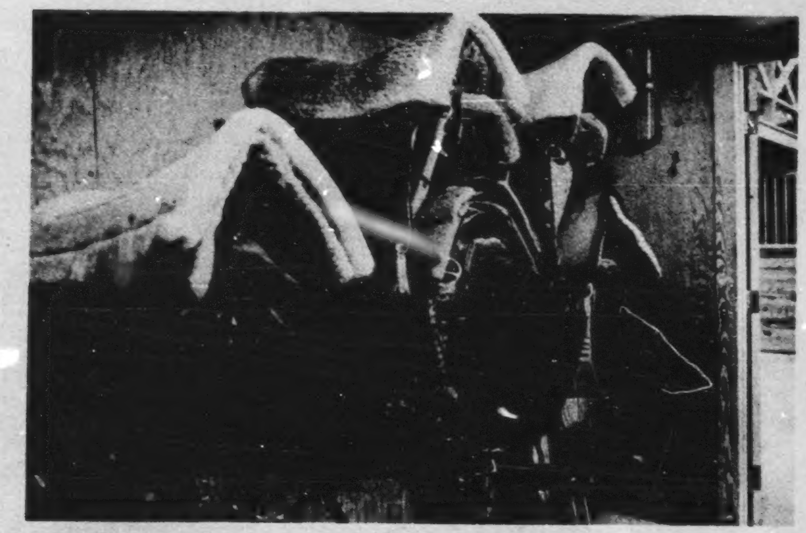
B. English saddles--Cover with carrying case and place on rack

Example of carrying case:



C. Bridles--Hang on rack so bridle and reins will not get twisted

(NOTE: Notice in the figure below how the bridles are hung with the saddles. They could also be hung separately on hooks in the tack room. The following is a photograph of a well-organized tack room.)



SELECTION AND CARE OF TACK
UNIT II

JOB SHEET #1--CLEAN TACK

I. Equipment and materials

  A. Saddle soap

  B. Neatsfoot oil

  C. Sponge

  D. Soft, dry cloth

  E. Small buckets for water

  F. Leather equipment

II. Procedure

  A. Remove all loose particles

  B. Rub dampened sponge on soap

  C. Work lather into leather

  (NOTE: Apply to small area at a time.)

  D. Wipe with clean sponge, squeezed as dry as possible

  E. Polish leather with soft cloth

  (NOTE: Leather should be dry before polishing.)

  F. Oil underneath portions of leather, especially seat jockey and fenders

  (CAUTION: Oil on light-colored saddles may cause spotting.)

EQU - 49-G

SELECTION AND CARE OF TACK
UNIT II

TEST

NAME ______________________________ SCORE ______________

1. Define the following terms associated with selection and care of tack.

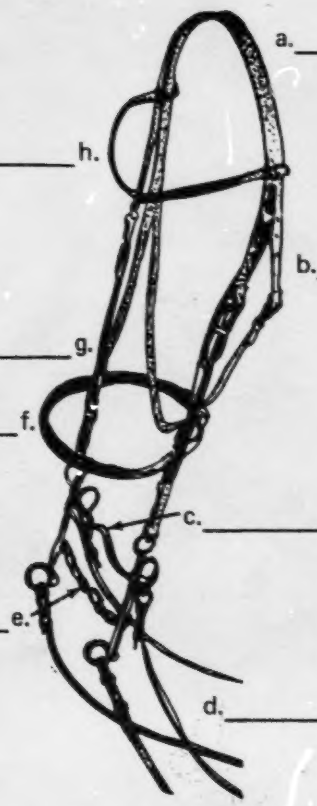
   a. Western saddle--______________________________

   ____

   b. English saddle--______________________________

   ____

2. Match parts of the English bridle to the correct names. Write the correct names in the blanks provided.



a. ______________________

b. ______________________

c. ______________________

d. ______________________

e. ______________________

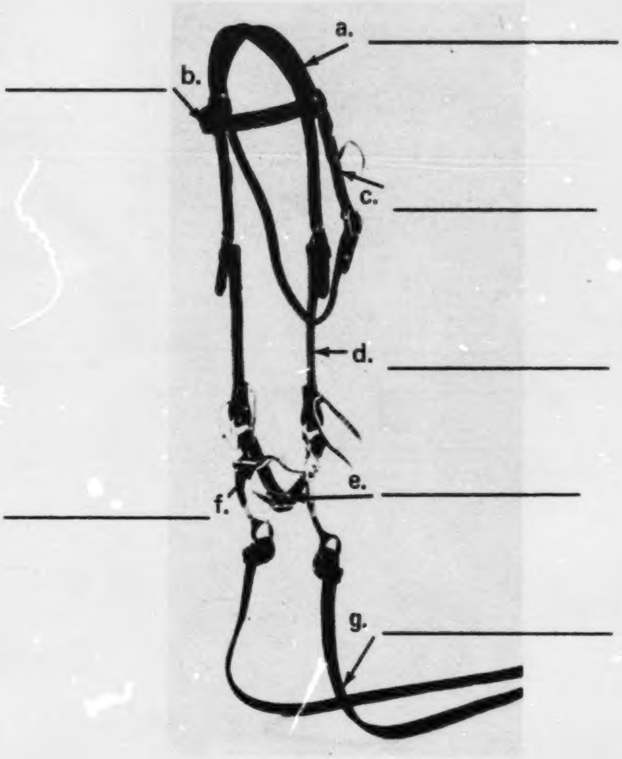
f. ______________________

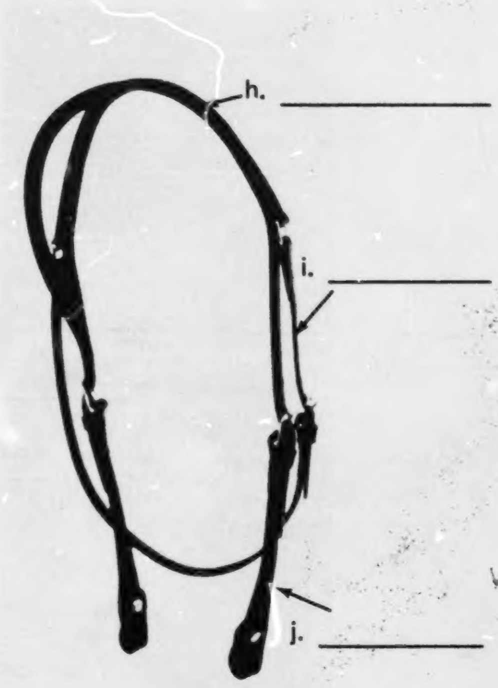
g. ______________________

h. ______________________

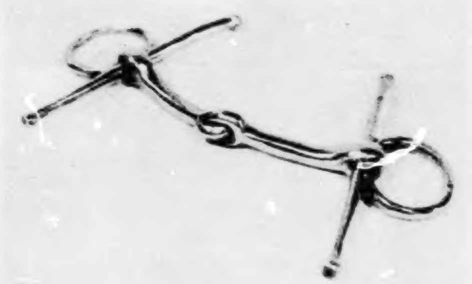
- Brow band
- Crownpiece or Headstall
- Curb Bit
- Throatlatch
- Reins
- Noseband
- Curb Chain
- Cheekpiece

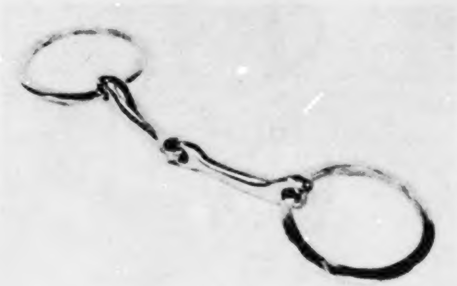
3. Identify parts of the Western bridle by writing the correct names in the blanks provided.



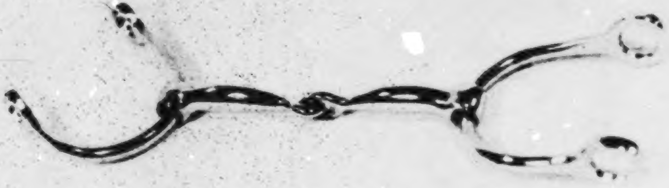


4. Identify the following kinds of bits by writing the correct names in the blanks provided.

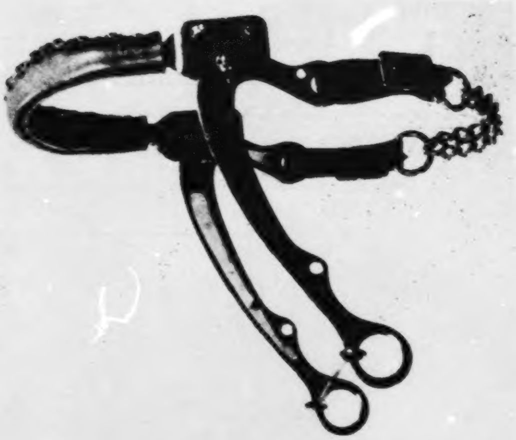




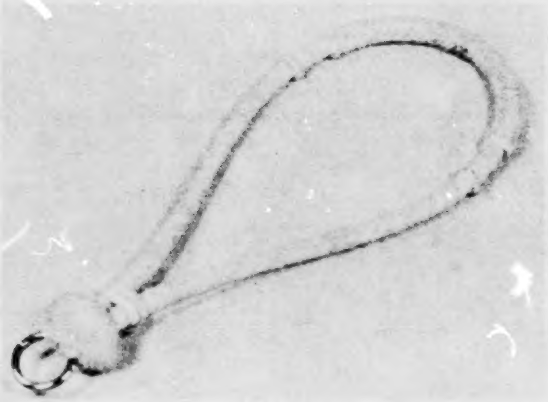
a. ______________________________ b. ______________________________



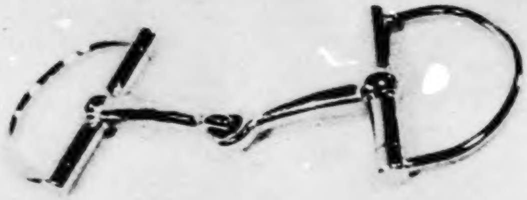
c. ______________________



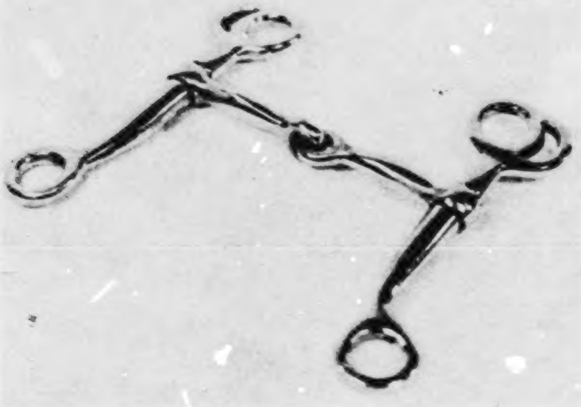
d. ______________________



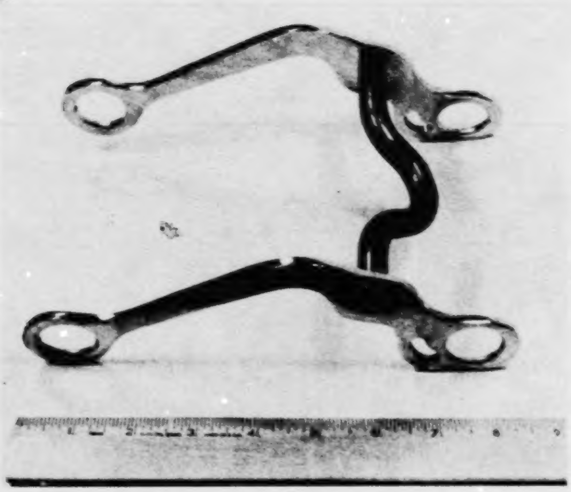
e. ______________________



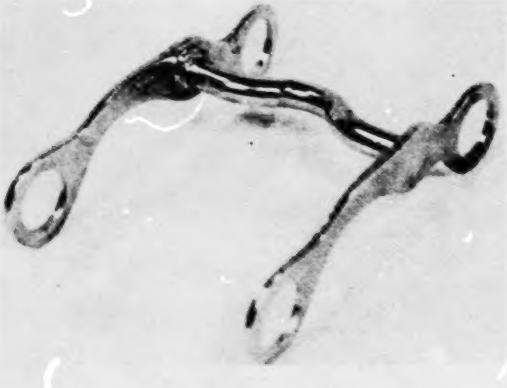
f. ______________________



g. ______________________________

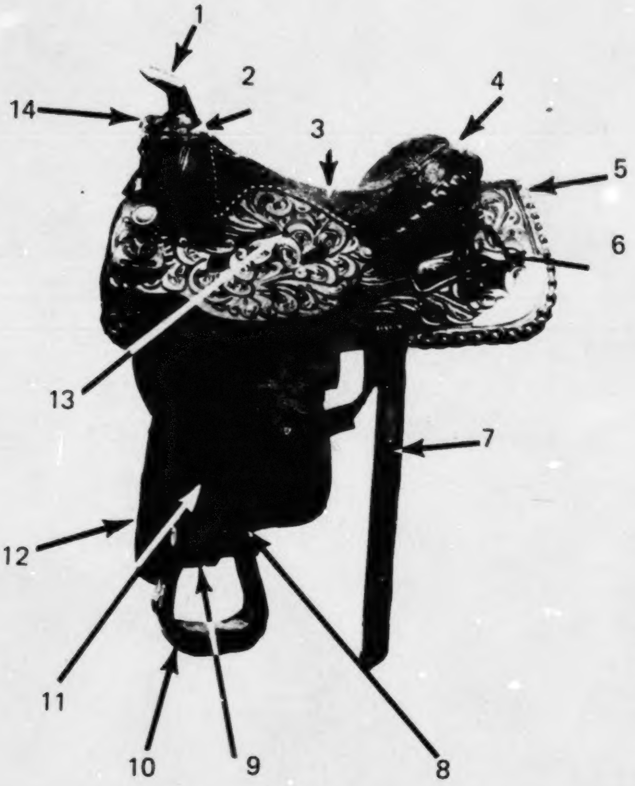


h. ______________________________



i. ______________________________

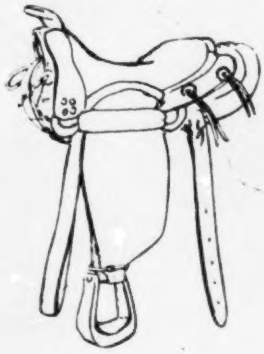
5. Match parts of the Western saddle to the correct names. Place the correct numbers in the blanks provided.

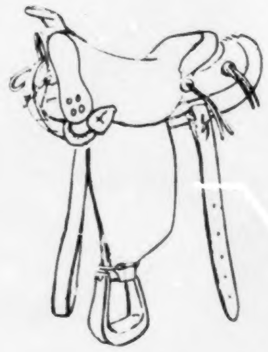


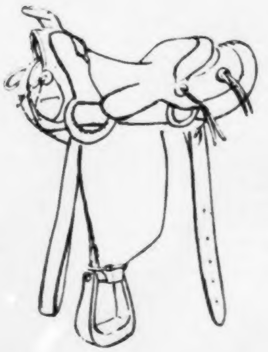
_____a. Stirrup leather
_____b. Front tie strap or cinch strap
_____c. Pommel
_____d. Cantle
_____e. Leather flank girth billet
_____f. Back housing or back jockey
_____g. Skirt

_____h. Stirrup
_____i. Fender or Sudadero
_____j. Horn
_____k. Stirrup leather keeper
_____l. Fork
_____m. Seat
_____n. Front jockey and seat jockey, one piece

6. Identify the types of rigging on Western saddles.

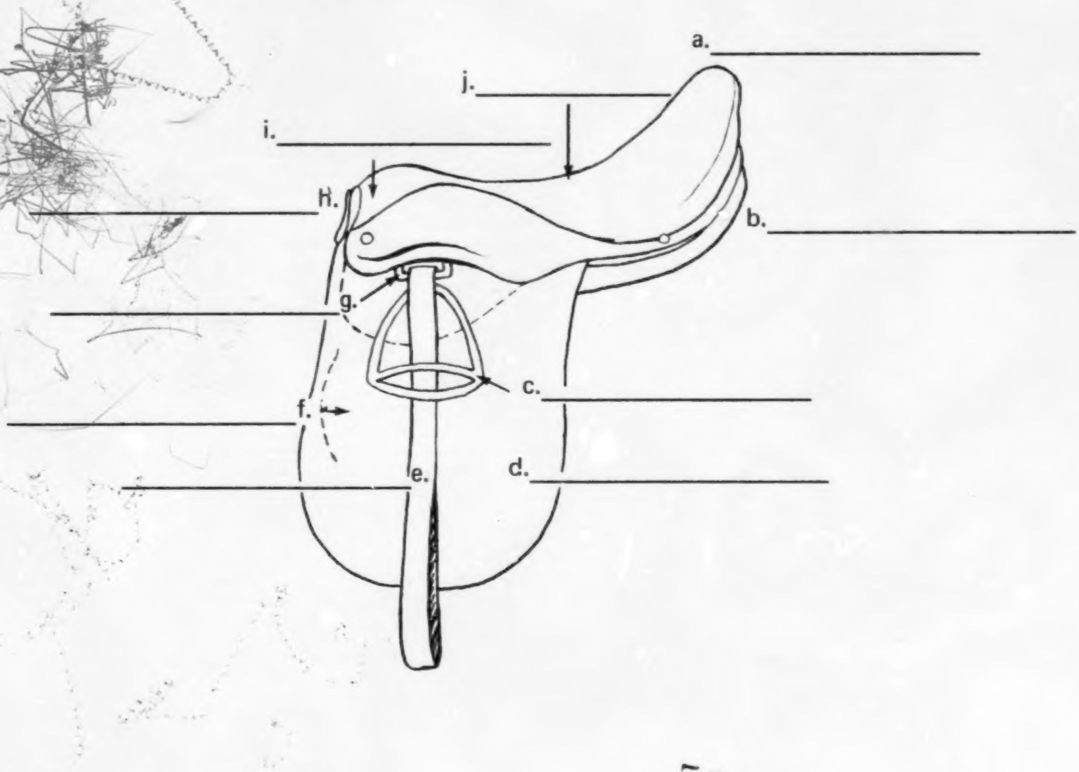






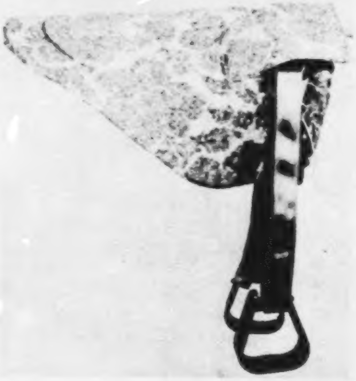
a. ____________________ b. ____________________ c. ____________________

7. Identify parts of the English saddle. Write the correct names in the blanks provided.



8. Identify the following types of saddle pads. Write the correct names in the blanks provided.

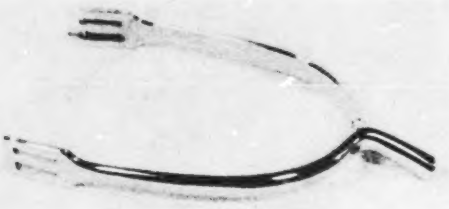
a. ____________________



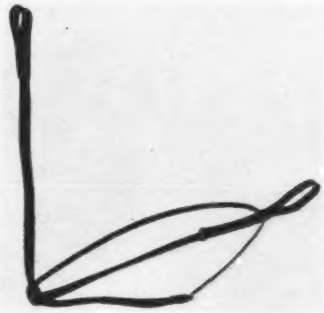
b. ____________________

c. ____________________

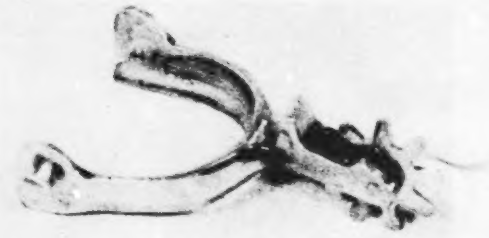
9. Identify the following artificial riding aids. Write the correct names in the blanks provided.



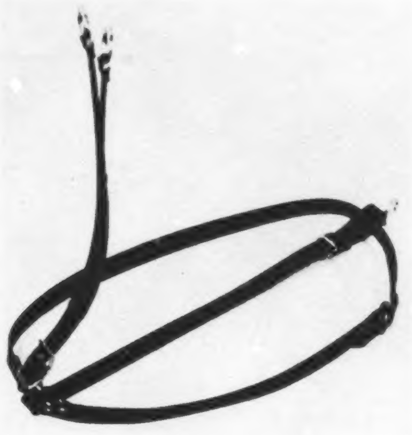
a. ______________________________



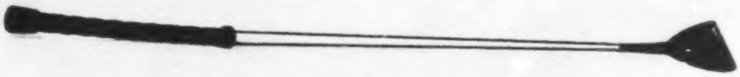
b. ______________________________



c. ______________________________



d. ______________________________



e. ______________________________

10. Describe ways to store saddles and bridles.

    a. Western saddles--____

    ____

    ____

    ____

    b. English saddles--____

    ____

    c. Bridles--____

    ____

11. Demonstrate the ability to clean tack.

    (NOTE: If the above activity has not been finished before the test, ask your instructor when it should be completed.)

SELECTION AND CARE OF TACK
UNIT II

ANSWERS TO TEST

1. a. Western saddle--Large saddle with horn; used for roping, cutting, and other events

   b. English saddle--Small saddle used for jumping, pleasure, and dressage

2. a. Crownpiece or headstall

   b. Throatlatch

   c. Curb bit

   d. Reins

   e. Curb chain

   f. Noseband or cavesson

   g. Cheekpiece

   h. Brow band

3. a. Crownpiece

   b. Brow band

   c. Throatlatch

   d. Cheekpiece

   e. Curb strap

   f. Bit

   g. Reins

   h. Crownpiece

   i. Throatlatch

   j. Cheekpiece

4. a. Full cheek snaffle

   b. O-ring snaffle

   c. Racing

   d. Hackamore

   e. Bosal

   f. D-ring snaffle

   g. Tom Thumb

   h. Grazing

   i. Curb

5. a. 9
   b. 12
   c. 14
   d. 4
   e. 7
   f. 6
   g. 5
   h. 10
   i. 11
   j. 1
   k. 8
   l. 2
   m. 3
   n. 13

6. a. Full rig
   b. Three-quarter rig
   c. Three-quarter double rig

7. a. Cantle
   b. Panel
   c. Tread or stirrup iron
   d. Flap
   e. Stirrup leather
   f. Knee pad or knee roll
   g. Stirrup bar
   h. Pommel
   i. Skirt
   j. Seat

8. a. English pad
   b. Bareback pad
   c. Western pad

9. a. English spur
   b. Standing martingale
   c. Western spur
   d. Running martingale
   e. Riding crop

10. Description should include:

    a. Western saddles

        1) Hang with a rope

        2) Place on saddle rack

    b. English saddles--Cover with carrying case and place on rack

    c. Bridles--Hang on rack so bridle and reins will not get twisted

11. Performance skill evaluated to satisfaction of instructor